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ABSTRACT

This document discusses some of the more important management skills and procedures needed for the design, implementation, and operation of performance contracting programs for education; and explores the match between the needed and the currently available management skills and procedures in school district management. The management practices used in 20 geographically-distant sites that were involved in over 30 performance contracting programs were surveyed. This direct data source, in conjunction with the Rand experience in the field of analysis for educational planning and resource management, provides the base for the substance of this report. Three major management considerations are identified: (1) planning the performance contracting program, (2) organizing to effectively manage the operation of the program, and (3) developing the capability to evaluate the results of the program in terms of its comparative cost and effectiveness. The paper includes a summary description of the experiences in several districts and a discussion of the role of three State departments of education. A planning guide put out by a fourth State department of education is also discussed. (Pages B49-69 and C14-28 may reproduce poorly.) (Author/JF)

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November 1971

CONSIDERATIONS IN PLANNING AND MANAGING PERFORMANCE CONTRACTING FOR EDUCATION

Sue A. Haggart

A WORKING NOTE
prepared for the

DEPARTMENT OF HEALTH, EDUCATION, AND [illegible]

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PREFACE

This Working Note is part of the Rand Study of Performance Contracting in Education, sponsored by the Assistant Secretary for Planning and Evaluation of the United States Department of Health, Education and Welfare under Contract No. HEW-OS-70-156.

Aspects of planning for performance contracting in education are discussed. Included is a summary description of the experiences in several districts and a discussion of the role of three state departments of education. A planning guide put out by a fourth state department of education will also be discussed. In substance, the material of this report is complementary to and includes the materials from the eight performance contracting programs in five districts that were the subject of an in-depth field monitoring and evaluation reported to HEW in R-900-HEW, *Case Studies in Performance Contracting*. The material will be included, in part, in the performance contracting guide that Rand is preparing.

In total, 20 local districts and 3 state departments of education comprise the surveyed base for this report. In a few cases, where the experience is a matter of public record, that district is identified. In other cases, because the information was given on a confidential basis, the experience of a district is not identified with the district. The districts were chosen primarily because of a rather unique experience in performance contracting and because they provided a sample with a wide range of conditions and actions taken. Similarly, the state departments of education all assumed a different role in planning performance contracting for the districts in their states.

The purpose is to report on a wide variety of experiences and to note particular problem areas encountered in planning performance contracting during the 1970-71 program year. The emphasis is on activities at the district level but the different roles assumed by state departments of education will be discussed.

SUMMARY

This Working Note discusses some of the more important management skills and procedures needed for the design, implementation, and operation of performance contracting programs for education, and explores the match between the *needed* and the *currently available* management skills and procedures in school district management.

The management practices used in twenty geographically-distinct sites that were involved in over thirty performance contracting programs were surveyed. This direct data source, in conjunction with Rand experience in the field of analysis for educational planning and resource management, provides the base for the substance of this report.

Three major management considerations are identified: (1) Planning the performance contracting program, (2) Organizing to effectively manage the operation of the program, and (3) Developing the capability to evaluate the results of the program in terms of its comparative cost and effectiveness.

In planning the performance contract program of instruction, formal documentation is necessary for effective management. This is true even if there is an atmosphere of mutual trust between the local educational agency (LEA) and the learning system contractor (LSC). This documentation--the request for proposal prepared by the LEA, the bid or proposal submitted by the LSC, and the resulting contract or agreement--provides the written means of communication between the LEA and the LSC. (Sole source selection or noncompetitive bidding does not, of course, require the request for proposal.) Of these documents, the contract is the most important. It should strike a workable balance between comprehensiveness and flexibility in outlining the responsibilities of the LEA and the LSC.

The management of performance contracting requires a *program orientation* with the focal point of program management and the lines of responsibility clearly visible. Lack of program orientation presented an operational problem in most of the districts because traditionally the administrative structure is oriented toward either the functions or the inputs of the educational process rather than the product or output of

the process. Performance contracting experience provides an example of the need for *management by program* and should serve as an impetus to its development as one way to more effective use of educational resources.

Evaluating a performance contracting program in terms of its comparative cost and effectiveness has two important aspects: the *analytical capability* and the *methodology* for measuring the program output and for estimating program cost. One without the other is unproductive. Not surprisingly, the current inadequacy of both the capability and the methodology presented a major obstacle to the school district evaluating the concept of performance contracting for education.

There needs to be a two-pronged, concurrent attack on the problem. Logically, it could be argued that the methodology has to be delineated before the analytical capability to use the methodology is developed. Conversely, and somewhat more appropriately, the existence of a general analytical capability at the school district level should facilitate the development, or the advancement of the state-of-the-art, of the methodology for measuring program effectiveness and cost. Thus, a current school district management consideration should be an assessment of the need to develop the requisite in-house capability or to contract for analytical services.

In sum, the concept of performance contracting appears to offer a way to effect an improvement in the management of education by:

- Acting as a change agent in the *use of resources*.
- Supporting changes in traditional staffing patterns.
- Forcing an improvement in evaluation methodology.
- Promoting school and district reorganization.

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I. INTRODUCTION

THE NEED FOR PLANNING

The successful design, implementation, and operation of a performance contracting program in education is dependent on the quality of planning that goes into each of these stages. The evaluation of the results also depends on planning for the evaluation on a timely basis. Timely basis in this sense is planning to evaluate before the data are in. This is to insure that adequate and appropriate data are available for the program evaluation. Specifically, in this study, planning procedures include the procedures needed by both the local educational agency (LEA) and the learning system contractor (LSC) for program planning, evaluation design, evaluation, operation, educational audit, management audit, and cost-effectiveness analysis of performance contracting.

The general approach is to survey the procedures used by districts that undertook a performance contracting program in the 1970-71 school year and used by districts that were planning to undertake performance contracting, but did not, and to identify the problems these districts encountered both during the planning phase and operational phase. In addition, for each district, an attempt was made to isolate those procedures or actions that contributed to either a smoothly operating program or to the solution of a particular problem. This information will be part of the basis for developing the guidelines for planning performance contracting programs.

The districts that were selected for this portion of Rand's study of performance contracting in education represent a wide range of sizes, management capability, and wealth. The districts varied from large urban school districts, 125,000 or more students enrolled, with a well-organized hierarchy of responsibilities, to small districts, less than 3000 students enrolled, with a traditionally organized but small administrative staff. The large district normally has its own data processing capability or at least has access to data processing facilities. In most small districts, access to data processing facilities was limited if not out of the question. This is not to say that either size

of staff by itself or data processing capability by itself contributes to the success of the performance contracting approach. Rather, it is that a large staff increases the probability of having the needed expertise on hand for the effective management of performance contracting. The existence of a data processing capability can also be an indicator of a district's ability to use the management tools currently available. On the other hand, the small district might have a managerial advantage especially when dealing with the problem of acceptance of the performance contract program by the community and by the teachers.

There is another aspect of planning that was part of the initial observation requirements. This is determining whether or not the individuals on the district staff had exposure to some of the management techniques being borrowed from other disciplines and applied, sometimes inappropriately, to the problems of educational planning. An example would be an overemphasis on the mechanics of cost control with an elaborate record keeping of expected cost versus actual cost and with detailed explanation of variances for minute periods of life of the performance contracts. This will be discussed in one particular example where the Request for Proposal (RFP) was so complex in this area that it overshadowed all other aspects.

DISTRICTS INCLUDED IN THE PLANNING SURVEY

Twenty educational agencies are involved in the assessment of planning for performance contracting programs. These are shown in Fig. 1. Other programs in the 1970-71 program year are shown in Appendix A. As was mentioned earlier, we are interested in identifying the possible impact of different procedures on the success or failure of performance contracting. Of these field survey sites, five (marked with an asterisk) are also included in the report on the in-depth field monitoring and evaluation.*

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*See P. Carpenter, A. W. Chalfant, G. R. Hall, M. L. Rapp, and G. C. Sumner, *Case Studies in Performance Contracting*, The Rand Corporation, R-900-HEW, Santa Monica, California (forthcoming).

Alachua County, Fla.
Compton, Calif.
Dade County, Fla.
Denver Area, Colo. (3 programs)
El Cajon, Calif.
Flint, Mich.
Gary, Ind.*
Gilroy, Calif.*
Grand Rapids, Mich.* (3 programs)
Greenville, S.C.
Mesa, Ariz.
Muskegon, Mich.
New Jersey
Philadelphia, Penna.
Portland, Oreg. (3 programs, 1969-70)
San Diego, Calif.
San Francisco, Calif.
Texarkana, Ark.
Liberty-Eylau, Texas (1969-70 and 1970-71 programs)*
Virginia (7 programs, including one in Norfolk)*
Yuba County, Calif.

Fig. 1--Field sites for planning survey

The geographic distribution of the planning sites contacted for this study is shown in Fig. 2. The role played by the state department of education in planning performance contracting was explored. The states are: New Jersey, Virginia, and Colorado. In addition, we had occasion to observe, through our studies in Grand Rapids, some of the activities of the Michigan State Department of Education. In particular, we have made use of a guide prepared by the department which is available for distribution. The guide provides a good overview of the activities and the role of the department in assisting the districts.

PROFILE OF THE PLANNING DISTRICTS

In the terms of enrollment the sample includes 7 small, 9 medium, and 3 large districts. Five of the districts had some data processing capabilities. For the most part, this was related to general student services, payroll, and other business services. Only three of the districts had a planning, programming, and budgeting system as an acknowleged part of their district operation. The overall analytical capabilities of the staff of all districts were typically minimal, as in most

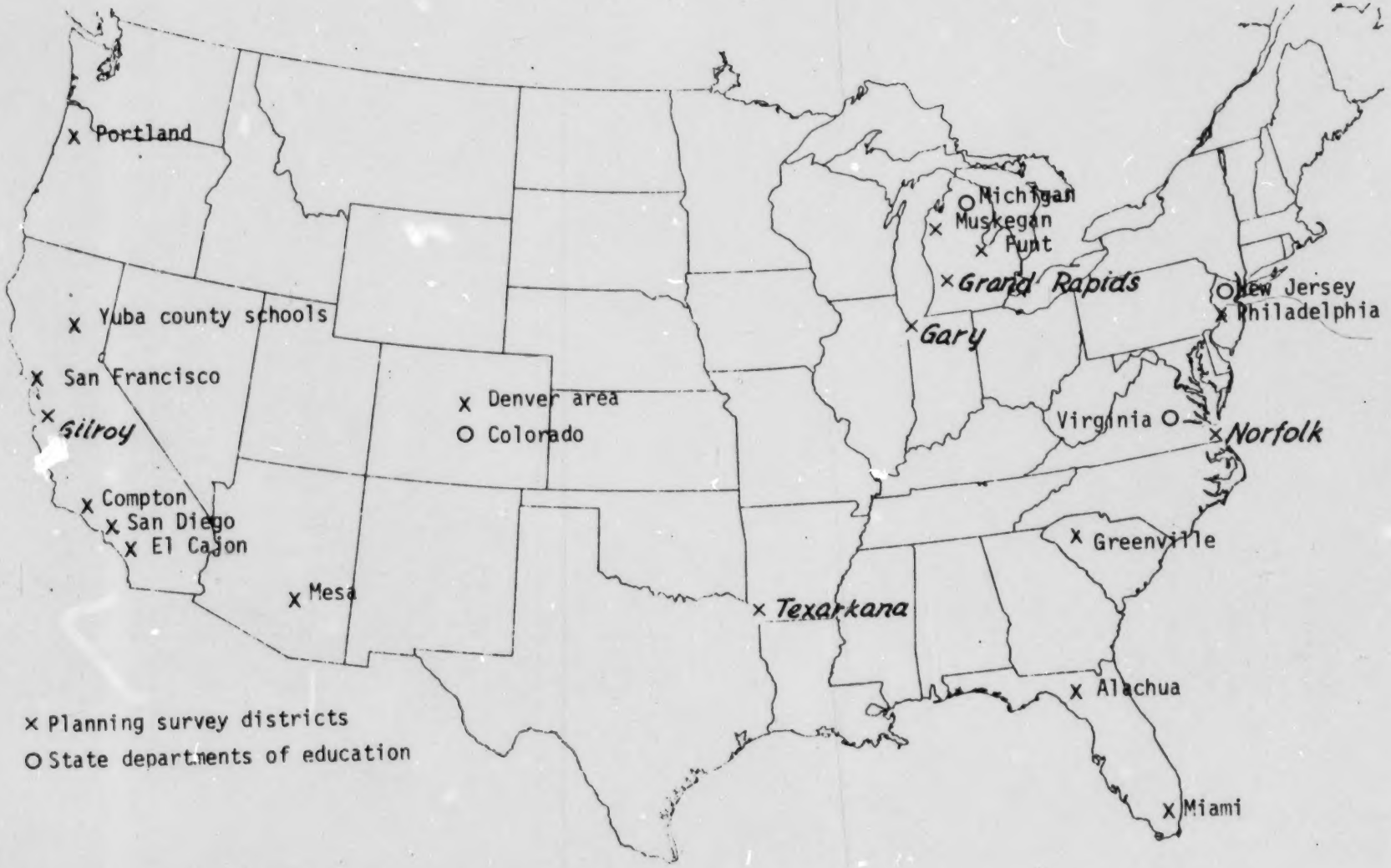

Fig. 2--Distribution of planning survey sites

districts at this time. One of the district-level impacts of having tried performance contracting programs may well be an attempt to improve the analytical capability of the district staff. Analytical capability here is used in the very broadest sense to include the systematic evaluation of performance contracting as well as the usual analysis of test scores and the keeping of student achievement statistics. Most districts that had data processing equipment (e.g., Gary, Indiana) did not us the capability to support the analytical aspect of planning.

In none of the districts was a *central* evaluation staff identified; the *function of evaluation was fragmented* throughout the district organization. For the most part, evaluation seemed to be housed in the baliwick of the instructional services. Previous district experience seems to be restricted to using outside contractors for district operations in the areas of construction, auditing, and teacher training. Contractors operating in a classroom as in performance contracting represents a marked departure from normal operating procedures. In most of the districts, not only were the instructional services essentially turned over to an outside contractor but also the support-type services such as evaluation and management activities were essentially in the hands of nonschool staff.

Programs in the field survey sites involved students in the elementary and junior high grade levels. All but a few of the programs provided for reading and sometimes mathematics instruction. One district is planning performance contracting for occupational training at the high school level. Another program involved a performance contract for teacher training; another program (El Cajon, California) had teachers working with the LSC in improving their instructional technique as well as in providing instruction. In one district, the teachers, through their teachers' association, contracted with the school district in the same manner as an LSC.

RANGE OF PLANNING ACTIVITIES

A wide range of outcomes resulted from the planning activities in the districts surveyed as the data base for this report. Three disricts are of particular interest. One district spent the year

systematically investigating the ins and outs of performance contracting. The focal point, here, was the program and curriculum development area of the superintendent's office. Several staff members were involved in the research effort that covered not only the activities of other districts in performance contracting but also the reaction of the district staff and the community to the concept of contracting with an LSC to provide education and the pinpointing of potential areas within the district where performance contracting might be used. The district is currently planning to undertake a performance contract in the second half of 1971-72. The long-range expectation is that if performance contracting elsewhere is successful in doing what the district has not been able to do, then the district can learn from this experience (e.g., teach reading better), and apply the *practices* of the LSC as a part of their regular programs.

This has been a very cautious approach to performance contracting. In effect, the district has benefitted from the experience of other districts during the 1970-71 year. More important, however, is that the district knows a good deal about its needs, its capabilities, and the match of the performance contracting approach to these needs and capabilities.

In another district, efforts to plan for a performance contract were unsuccessful. Before the end of the first year of the Texarkana performance contract, this district superintendent decided to start a performance contract. At that time, the district was using materials of two publishers who subsequently became learning system contractors for other districts in the 1970-71 school year. As envisioned, the materials and services would be purchased from the publisher on an accountability contract. Payment would have been based on pre-negotiated standards of performance and full payment would have been made for only those students who achieved a full year's growth after being in the program for a year. The program was to be part of a group of other innovative practices. The advantages and disadvantages were to be explored by the superintendent, the staff, and members of the community. This exploration, however, did not adequately involve the teachers who would be affected by the program. In addition, the ideas of accountability and cost effectiveness were strongly emphasized.

Because of these emphases and lack of involvement of teachers, the proposed performance contracting program encountered sufficiently severe resistance (strike threatened) from the teachers to stop the plans for the performance contract. Remember, these events took place before the initial performance contract in Texarkana was completed or even well under way. Teachers felt that outsiders were being brought in and paid to do the teaching job and yet the teachers would still be held responsible. Perhaps if there had been an involvement of the teachers in the initial planning, the result would have been different.

A third district went through the motions of identifying the educational need but then selected an educational program on another, essentially noneducational, basis. The resulting problem in this case was that there was no match between the target population and the program offered by the LSC. The result was a performance contract with the performance guarantee being to increase the reading speed of all the students in a particular grade. The problem was that only a few of the students were reading at grade level or even as high as one year below grade level. The outcome was a performance contracting program that was expectedly unsuccessful in terms of meeting its objectives. Payment to the contractor, however, was based on a flat rate for the students in the program, with a bonus in case of meeting the objective of increased reading speed.

The point here is that the district planning to undertake a performance contract has to identify the educational need and to make this need known to the LSC. The identification of need, an accepted step in planning nonperformance contracting programs, is crucial to a successful performance contract program. No amount of planning expertise on the part of either the district or the contractor can overcome deficiencies in this initial step. The identification of need is necessary even if there is no competitive bidding; in evaluating the proposed program of a sole source LSC, the district must assess whether or not the proposed program is designed to meet the objective or need. It seems apparent that the LSC also has an obligation to evaluate this need in responding to the RFP.

The identification of educational need, of course, only begins the planning process for performance contracting. As with any process, people and techniques are essential ingredients. People are particularly important; the experience to date indicates that a broad involvement of district staff contributes to the success of the program. Adequate techniques for planning are available. As they are used, their effectiveness will improve. The functioning of the combination of people and techniques is described in the discussion of planning for performance contracting.

USE OF EXTERNAL ASSISTANCE OR TECHNICAL SUPPORT

Of the districts with a performance contracting program, about half used some form of external assistance or technical support. This support was contracted for as services from a management support group (MSG). Other districts, again about half of the districts, used an evaluator, an independent educational auditor (concerned mostly with auditing the educational aspect of the program and its outcome), or a testing contractor. These functions are usually the subject of separate contracts between the district and the contractors. In some cases, subcontracts are written with the prime contractor being the learning system contractor. The evaluation, the educational audit, and the testing contractors are more central than the management support group, but the MSG role has evolved into a wide-ranging involvement in the entire planning and operation of a performance contracting program.

The MSG services have included help to the district in writing the RFP, in evaluating the bids and the bidders, and in writing grant applications and contracts. The identification of need, identification and selection of the program students, determination of the performance objectives, specification of test instruments, development of payment schedules, locating qualified contractors, and detailing legal constraints have all been functions performed by the MSG. Sufficient data are not available at this time to draw realistic inferences about the success of the MSG or about the need for the MSG. It cannot be denied, however, that the MSG did serve as a management catalyst in the development of the concept of performance contracting and its implementation so far.

Educational Turnkey Systems is predominant among those organizations performing the management support group services. During the 1970-71 program year, however, the MSG role was played by a regional educational service center, funded under Title III of the Elementary and Secondary Education Act (ESEA), and by several of the LSCs. In the 1971-72 program year, the management support services in one district will be performed by the research and evaluation center of a county superintendent of schools office in California.

ORGANIZATION OF THE REPORT

The next section describes the documentation flow necessary in planning for performance contracting at the district level. The equally important area of who should be involved at the district level in planning and implementing a program is explored. The role played by different state departments of education is discussed in some detail because of the potential benefit that can be realized from effective participation by the State Department of Education.

The concluding section summarizes actions taken by districts with performance contracts during the 1970-71 program year and by districts initiating performance contracting during the 1971-72 program year. In addition, the future plans of districts not in the survey base of planning activities will be briefly noted.

II. PLANNING FOR PERFORMANCE CONTRACTING

INTRODUCTION

From the experience of the districts involved in planning for performance contracting, an overall picture developed. The structure for planning can be described in terms of the documentation flow necessary for successful planning. The three main documents are:

- The request for proposal (the RFP).
- The proposal or bid.
- The contract or agreement.

The substance of each of these documents is described using examples from the districts in the planning survey to highlight particular problems. One of these concerned who was involved in the preparation of the documents and who should be involved in the overall planning process. This led into an exploration of the "people-side" of managing performance contracting.

The nature of the involvement of district staff members is discussed in terms of expertise needed rather than by identifying the titles of the staff members. In the smaller districts, the superintendent and his three- or four-man staff are assumed to encompass all the areas of expertise. In the larger districts, each type of expertise may be designated by a director or a coordinator for a specific area.

DOCUMENTATION FOR PLANNING A PERFORMANCE CONTRACT

The request for proposal prepared by the LEA, the bid or proposal submitted by the LSC, and the contract or agreement between the LEA and the LSC are the *written means of communication in planning* the performance contract program of instruction. In a noncompetitive bidding, there is no formal RFP but the substance of the RFP still has to be part of the district's information base and, if communicated to potential LSCs, should result in a better program. Comprehensiveness and clarity are necessary in all three documents. In the RFP and the proposal or bid phase, program ambiguities or misconceptions can be cleared by interaction between the LEA and the LSC. The product of this interaction,

the contract or agreement, should clearly state the responsibilities of the LEA, the LSC, and, if applicable, the outside evaluator, the independent educational auditor, and the management support group.

These documents serve as the structure for the planning of performance contracting. As mentioned earlier, the procedures include those needed by the district for program planning, evaluation design, evaluation, implementation, operation, education audit, and management audit.

The Request for Proposal

The Request for Proposal (RFP), the proposal or bid, and the contract are the three main documents in planning for performance contracting. The RFP and the proposal provide a means of exchanging information between the learning system contractor and the local education agency. The result is the contract to carry out the performance contract program. Each of these documents will be discussed briefly as a means for providing a structure for discussing planning activities of performance contracting. The documentation flow for the planning of performance contracting is shown in Fig. 3. In a noncompetitive bid situation, however, it should be recognized that an RFP may not be prepared but that the informational content of an RFP does, in fact, provide the assessment of the educational need for the program.

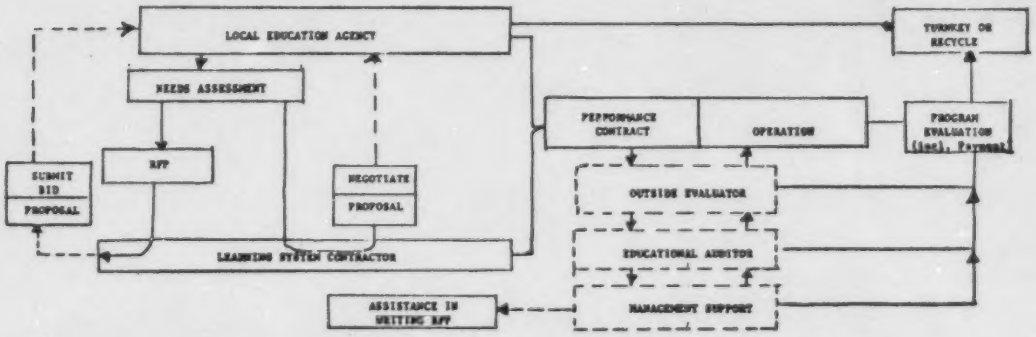

Fig. 3--Documentation flow of planning performance contracting

A good RFP must walk a fine line between providing excessive data and too little data. The RFP, if it provides an excessive amount of information or restraints under which the contractor must operate, has a straightjacketing effect on the contractor and thus nullifies the innovative potential of performance contracting. On the other hand, a data-poor RFP is likely to result in an inadequate and inappropriate bid from the contractor.

One case was noted in the *Educational Marketeer.** The news release was entitled "They Gave an RFP and No One Came." It stated (slightly paraphrased) that the request for Proposal for a Performance Contract to "increase the positive attitude" of teachers of math, issued on behalf of 13 northern California counties, has received *no responses.* Payment for the in-service project would have been based partially on standardized testing of student achievement and partially on "improved" teacher performance. The "teacher improvement" will be measured by a system being designed by the local education agency, the Yuba County Schools Office in the City of Marysville, California.

Allen Buckner, project director for the proposed program, confirmed that the RFP was circulated among 48 institutions, agencies, and private companies, but no proposals were returned. Some potential bidders stated that the intangible "teacher evaluation" turned them off. In the opinion of another contractor, the proposal or the RFP was so complex that it would cost more than the contract price to prepare the proposal.

The preparers of the RFP sent out a questionnaire to determine why no proposals were received. There were eight items on the questionnaire. These items were:

1. Funding level unsatisfactory.
2. Accountability requirements.
3. Insufficient time for development.
4. Insufficient time for implementation.
5. Specifications generally too restraining.
6. Possible political ramifications.
7. Behavior modification requirements.
8. Other.

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*Vol. 3, No. 9, February 1, 1971, p. 2.

The responses from the questionnaire provided little constructive help to the preparer of the RFP for his future efforts. The two items checked most often were (3) Insufficient time for development and (4) Insufficient time for implementation. The next most checked item was (2) Accountability requirements, followed by (1) Funding level unsatisfactory.

The RFP was very uneven in terms of content. It was difficult to determine the objective or the goal of the program. For the contract price of $39,000, the performance contractor was required to physically cover the wide geographical area of the 13 northern California counties. Given this requirement, transportation costs alone in performing the program would have been a significant part of the program cost. Another interesting aspect of this RFP is that the management demands seemed to greatly overshadow the educational content of the RFP. Seemingly excessive safeguards were set up to insure that every step of the contract throughout its life would be subjected to intensive work performance and cost audit. The contractor was required to develop a work schedule delineating each task. This work schedule was to be used then to plot work accomplished and to show the actual cost in terms of expended energy and the resources related to the specific tasks. These were to be measured in dollars or hours. The periodic reports by the LSC included a monthly planned value of work *scheduled* and a monthly planned value of work *accomplished*. In addition, the program variance was to be calculated. Program variance was defined as the difference between planned and actual energy and resources expended to achieve work package tasks. In this case, however, all was not lost. The Yuba County Schools Office proceeded to develop programs involving the training of 500 mathematics teachers and covering the 13 northern California counties. Thus, it could be said that their effort in developing an RFP was not wasted.

The number of pages is no indication of the broadness of scope or the preciseness of an RFP. Let's compare the two Texarkana RFPs. In 1969, the base RFP was five pages plus two attachments, for a total of 20 pages. This RFP resulted in several proposals. The winning proposal was in excess of 130 pages, not including the 11 appendices and a Final Note. The 1970 RFP was 11 pages for the base RFP, with four attachments

and an addendum. The sum total of the pages was about seven times the number of pages of the 1969 RFP. It is interesting to note that the winning proposal in response to the lengthy 1970 RFP was eight pages long with three appendices, for a total of 44 pages. This suggests that there is really no correlation between the number of pages of either the RFP or the responding proposal and the effectiveness of either. The important thing is that the RFP and the resulting proposal should be responsive to one another and soundly based.

The covering letter for the RFP usually provides an introduction to the statement of work, the broad objective, and an outline for the proposal format. The duration of the program, the nature of the program, the description of the target population, and some of the ground rules for the operation of the program were included in several of the proposals' covering letters. The statement of work is the substance of a proposal. In one example, the statement of work included the long-range goal of the program, the conditions under which it was to operate, the performance required of the contractor, the measures of performance that would be used, the method of contractor reimbursement, the format for reporting on the interim and final phases, and a list of general conditions and special conditions which the bidder must meet. In the event the contractor or bidder did not agree with the conditions, the bidder was encouraged to specify his position and give its supporting rationale and justification.

The largest section of one RFP was devoted to specifying an evaluation design. Another RFP specified that the proposal would cover six items:

1. A statement of the problem.
2. Technical approach.
3. Project organization and management.
4. Project management specifications.
5. Corporate background including personnel data.
6. Appendices including hardware specifications.

In addition, the RFP specified the format for information on the cost data and pricing arrangement.

Most of the RFPs we encountered in our survey of performance contracting equally emphasized two areas: One, that the bidder provide an accurate description of the approach to be used in meeting the objectives of the program; the other, that he give a full description of his past performance and accomplishments in similar or related areas of endeavor. The emphasis on the track record of the bidder probably rises from a fear that the LEA could easily be taken by an unscrupulous LSC.

In general, the contractor was required to submit separately detailed cost breakdowns. In one instance, the breakdown would include the cost of instruction per student per grade level, the cost increase within the maximum time period of the contract, or other details about the cost of comparable equipment, consumable and nonconsumable instructional materials.

Typically, the RFP also included the areas of concern to be considered by the LEA in evaluating proposals. An example of these evaluation criteria is shown in Fig. 4. Again, the emphasis seems to be on everything but the program. Not much is said about what actually will be done, under what conditions with what resources, and how will the success of the program itself be evaluated.

The Proposal

The proposals submitted in response to an RFP usually followed the format required by the RFP. The proposal submitted as the result of informal contact between the particular contractor and the LEA has a good deal more flexibility in terms of content. It should be noted, however, that there is a discernible tendency for follow-on proposals in the same district, or proposals written for the 1971-72 year, to follow the format of past winning proposals, solicited or unsolicited. The message here is that performance contracting has developed its own way of planning educational programs and operating within the school districts. There has been a trend toward a sort of universal proposal; this trend has been helped along by the existence of the management support group. The MSG very often works with the district both before and after a performance contract is entered into. They will very often

I. Soundness of Approach (25%-35%)
   A. Technical
      1. Theoretical/conceptual basis
      2. Pertinent empirical data
      3. Field tested material and techniques
      4. Behavioral psychology basis
   B. Socio-political/technical
      1. Will the community accept?
      2. Will the schools accept?
   C. General factors
      1. Degree of nonlabor intensity, i.e., low operating cost
      2. Extent to which instruction is individualized
      3. Testing instruments proposed and accompanying rationale
      4. Plan for training local personnel (both consultants and paraprofessionals)
      5. Motivational techniques proposed
      6. Management and logistic plan
      7. Provisions for quality control and on-going internal evaluation
      8. Range and flexibility of instructional time per day
      9. Difficulty of transition of mid-year student transfer from Rapid Learning Center to school system

II. Most Favorable Pricing Arrangement (35%-25%)
   A. Acceptable methods of cost reimbursement
   B. Account costs broken into following categories:
      1. Start-up
      2. Capital outlay
      3. Operating, actual, and "opportunity"
   C. Cost per unit achievement for students with different earning profiles

III. Past Performance and Technical Ability (15%)
   A. Relevance of past performance
   B. Verification by check with previous consumers, clients, users, associates, etc.
   C. Personnel
      1. Managerial expertise
      2. Background in behavioral science and instruction

IV. Organizational Commitment (15%)
   A. Level of corporate support
   B. Investment of time and other resources in planning proposal
   C. Corporate attitude toward project
   D. If consortium, clarity of lines of responsibility drawn
   E. Extent of other operations and overcommitment
   F. Ability to perform on "extras"
      1. Social services
      2. Other instructional services
      3. Counseling and guidance services
      4. GED--basic education

V. Other Factors (10%)
   A. Hardware technology
      1. Cost effectiveness of technical operations
      2. Availability through mass procurement sources
      3. Delivery time and guarantees
      4. Maintenance, re-installation, parts, and repairs
      5. Flexibility to use various kinds and forms of software and conceptual material
      6. Adaptability to modified classroom environments

Fig. 4--Proposal evaluating criteria used in Texarkana[*]

[*] *Performance Contracting in Education: The Guaranteed Student Performance Approach to Public School System Reform*, Education Turnkey Systems, March 1970, pp. 19-22.

work right along with the LEA to write the RFP or evaluate the proposal. After the contract has been let, the management support group continues to provide support in the management and analysis areas of the operation of the performance contract.

The content of the proposal should provide sufficient information for the LEA's evaluation of a proposal. The observation made earlier about the content of the RFP is quite naturally appropriate for the proposal. There seems to be an undue amount of emphasis in the content of the proposal on the contractor's corporate history, his related experiences and performance, and on his commitment to the concept of performance contracting. All of this is, of course, relevant information that should be considered in the evaluation of alternative proposals. However, in most cases, the extent of this boilerplate-type information was such that it detracted from the substance of the proposal. In the future, this type of information might be better put in an attachment or an appendix to the proposal.

The body of the proposal, then, would cover such points as the statement of the contractor's view of the educational problem being addressed by the performance contracting program, the contractor's proposed approach in great detail, specifications of equipment, and specification of staff requirement for teachers, paraprofessionals and management procedures needed in the operational phase of the program. In this discussion, the cost of the program has not been mentioned. It is the procedure to include cost information about a proposal under separate cover. This, theoretically, allows for the evaluation of *the program*, independent of *the cost* of the program. The cost of the program is, then, a subsequent input to the decisionmaking process in selecting the winning proposal. If the contractor supplies sufficient information about the program and its resource requirements, the LEA can very quickly determine an estimated cost of the program. In using the planning cost model reported in WN-7590-HEW,* the LEA can develop cost estimates for the proposed alternative programs.

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*S. A. Haggart and G. C. Sumner, *Resource Analysis for Performance Contracting in Education*, The Rand Corporation, WN-7590-HEW, Santa Monica, California, September 1971.

As representative of the substance of proposals for performance contracting, the Dorsett Educational Systems proposal for the 1969-70 school year and the Educational Development Laboratories proposal for the 1970-71 school year are included in Appendix B.

The Performance Contract or Agreement

The negotiation effort culminates in a contract or agreement. For most of the performance contracting programs, the agreement was both brief and comprehensive. Unlike the RFP and the proposal, there seems to be a wide range variation in the amount and nature of the information included in the contract. Generally, the agreements seemed to have safeguards for both the contractor and the LEA.

The agreement between the Board of Education of Grand Rapids, Michigan, and the Combined Motivational Educational Systems, Inc. covered the statement of the extent of the program, the time of the program, the location, and the services to be provided under the agreement. The agreement itself had five parts. The first part dealt with the teachers and outlined the requirements and responsibility of the district and the contractor. The second part covered student selection, again detailing the responsibilities of both the district and the contractor. The third part dealt with facilities. Only under the facilities section was a reference made to the contractor's proposal; in this section, the district was directed to "provide the equipment and facilities as set out as start-up costs in Appendices A and B to the proposal dated July 1970 at South Middle School during this term of Agreement as its sole cost and expense, which equipment and facilities shall remain the property of the district." The fourth part was concerned with the program per se. It specified the time period of operation and specified the contractor responsibilities for the operation of the program. The fifth and last section specified the schedule of fees and basis of payment, and was by far the largest section of the five.

The agreement between the Gilroy Unified School District and the Westinghouse Learning Corporation followed a different format. In this agreement the first section dealt with background and purpose. It described in narrative form the operation of the program in terms of its

five major elements: diagnosis, prescription, learning materials, motivation, and evaluation, and gave a brief statement of the objectives of the program. The second subsection had two parts outlining the responsibility of the contractor and the responsibility of the school in preparing for the opening of the program and for the operation of the program. The third section dealt with operation. It stated that the contractor will operate the program in the center according to fixed terms and standards, and outlined the things the school will do in order to assist and support the program operation. The final section concerned payment. It specified total payment and the payment basis.

An idiosyncrasy of most of the contracts or grants was the placement of general information or conditions under the section dealing with payments. These conditions ranged from what to do in case of catastrophic events from natural causes to the fact that the agreement was not assignable without the prior written consent of either party. They usually give the name and address of the contracts for the contractor and the LEA. These were, as noted above, included as sub-items under the payment discussion. Naturally, the location of these conditions has very little to do with the substance--it just seems strange to find them under the payment section.

The contract between the Texarkana School District No. 7 and the Educational Development Laboratories was by far the longest. As shown in Fig. 5, the contract included 18 sections and two exhibits. The contracts for the Grand Rapids and Gilroy programs are in Appendix C along with samples of contracts for evaluation, management support, outside educational audit, and specialized educational servicer. Again, this sampling is fairly representative of contracts for these specific purposes. The contract for the specialized educational services describes the scope of the work and the responsibilities and obligations of the contractor--in this case, consultants, and the districts. The substance of this contract had to do with developing a cost reporting format and a program budgeting format and, in general, providing the district with cost and budget information.

I. Scope of Work
II. Duties of Contractor
III. Responsibilities of Contractor
IV. Responsibilities of LEA
V. Performance Required of Contractor
VI. Method of Measuring Performance
VII. Basis of Payment
VIII. Procedures (for testing)
IX. Formula for Payment
X. Teacher Training
XI. Teacher Administration Policy
XII. Dissemination Policy
XIII. Visitations
XIV. Successors and Assignees
XV. Covenant Against Contingent Fees
XVI. Equal Employment Opportunity
XVII. Certification of Nonsegregated Facilities
XVIII. Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities
Exhibit A: Rules for Deciding Whether Two Items are to be Considered Identical
Exhibit B: Analysis of Cost-Effectiveness Ratios

Fig. 5--Introductory outline of the Texarkana-EDL Contract

GENERAL OBSERVATIONS

From the study of the RFPs, the proposals, and the contracts in the 1970-71 school year, several observations can be made. The first one has to do with the content adequacy of both the RFP and the proposal. The LEA and LSC have both developed expertise in writing these documents. In the area of the actual contract or agreement, one important section should be included. This is material related to provision for change,

for reacting or adapting to unexpected conditions after the program has been in operation. An example can be drawn from the experiences in Gilroy. The contract specified that 100 students were to be in the center, 50 at a time, for 2-1/2-hr periods in the morning and afternoon. After the first few weeks of operation, it was observed that 50 students at a time resulted in a great deal of confusion within the center. It was suggested that the students be broken into groups of 25 each for instruction in periods of 1-1/4 hr. Because this was not expected, no provision was made in the agreement for such a change. Although it was recommended, this change could not be effected until after the results of the 120-hr testing program had been released. Because the test results were not as spectacular as expected, a good deal of the competition generated between teachers in the program and teachers in the regular program diminished. At that time, it was possible to make the change so that 25 students were in the center at one time and the other students were absorbed in the regular program and then returned to the learning center for their hour and a quarter session. In short, after the interim test results were released, it was possible to institute a change in the program that the program teachers and the on-site directors wanted to institute much earlier in the year but that the nonprogram teachers had not accepted. It is possible that this situation could have been avoided had there been a recognition of the need for flexibility within the contract to allow for such changes.

Another example of the need to provide for flexibility in the contract has to do with staffing. Again in Gilroy, the initial staffing had one teacher and two instructional aides for each session of the learning center. This staffing was adequate after the program had been in operation for a while. During the first few weeks of operation, when the students were becoming acquainted with the procedures and the materials, it was felt that additional staff would have been helpful. It would be impossible to write a contract to cover all such emergencies or needed changes. There should be, however, some specified allowance for cooperative interaction between the contractor and the district as long as the results of this cooperation do not substantially alter the purpose and method of the performance contracting program.

The important areas to be covered in the contract are shown in Fig. 6. Notice that the program itself is emphasized; what the program is, what it takes to insure smooth operation, and the basis for payment are to be spelled out. The needed provisions for change, as discussed above, should state the types of changes allowed, the magnitude of the changes, the initiation procedures, and the means of resolution.

- Purpose/Objective
- LEA responsibilities
- LSC responsibilities
- Program
  - Target population
  - Staffing
  - Equipment
  - Materials
  - Configuration
  - Testing
  - Operation
- Payment
  - Amount of payment
  - Basis for payment
  - Timing of payments
- Management procedures
  - Planning
  - Administration
  - Logistical
  - Operational
- Provisions for changes
  - Types of changes
  - Allowable magnitude
  - Initiation procedures
  - Means of resolution

Fig. 6--Areas to be covered in the contract

III. ORGANIZATIONAL AND MANAGEMENT CONSIDERATIONS

INTRODUCTION

A broad and structured organizational involvement is needed for managing performance contracting at the school district level. Implicit in the earlier discussion of the planning activities there was the assumption that the greater the involvement of the staff at all levels the more likely you are to have a successful performance contract. This is true through all phases--the negotiation phase, planning phase, and the operational phase--if the involvement is structured to show the responsibilities of the staff members of both the LEA and the LSC.

Most, but not all, of the contractors of the 1970-71 program year have had experience in the business or industrial management practices needed to produce a product. This was held against the contractor by some of those who interpreted performance contracting in a narrow sense of producing a unit of achievement for a unit of cost. As the programs of the contractor were contracted for and implemented, a recognition of the contractors' awareness of the process, as well as a concern for the product, developed. This recognition, eventually, led to an appreciation on the part of the LEA of the benefits that could be gained from a systematic approach to the process of education. This did not happen instantly.

During the 1970-71 program year, many of the problems can be traced back to the basic mismatch between the two ways of doing business--the contractor's way and the educational administrator's way. The LSC concentrates on the program, determining what is to be done, setting up the machinery to get it done, and organizing for control.

ORGANIZATIONAL INVOLVEMENT AT THE DISTRICT LEVEL

Educational administration has not in the past concentrated on managing the educational process by programs. Typically, in a small district the superintendent has an assistant superintendent, usually for business services. As the enrollment increases, associate or assistant superintendents are added for instructional services and personnel

services and then for elementary and for secondary education, if applicable. Again in relation to size, directors, supervisors, coordinators, and consultants are added as major administrators in such areas as shown in Fig. 7.

Melding these different ways of doing business into an effective means of managing performance contracting took time. Who should be involved had to be determined. Recognized focal points of responsibility had to be identified. Communication lines had to be established. Procedures for resolution of daily problems related to program content or operation had to be worked out. Data needs and sources had to be determined. As the program year progressed, most of these tasks were accomplished, with varying degrees of success and trauma, simply because of necessity. Others will require more time and effort.

Superintendent
  Administrative Assistant

Associate Superintendent, business
  Administrative Assistant, business

Assistant Superintendent, elementary
Assistant Superintendent, secondary

Directors
- Plans and construction
- Personnel
- Maintenance and operation
- Compensatory education
- Research and evaluation
- Finance
- Food services
- Federal projects

Supervisors
- Child welfare and attendance

Coordinators
- Science
- Bilingual program
- Business & student placement
- Guidance
- Vocational education
- Educational facilities
- Special education
- Music education
- Art education
- Health, P.E., and recreation

Other
- Psychologists
- Attendance counselor
- Audio-visual and library consultant

Fig. 7--Major administrative titles in typical organization of school districts

The answer to the question of who should be involved in the various phases of the performance contract program lies in the nature of the program, the LEA and the LSC. In general, the involvement should include those people who would be active in planning, operating, and evaluating the program, and those people who would be affected in one way or another by the program. This involvement starts in the negotiation phase and continues through the operational and evaluation phase. It should include members of the community as well as the top echelon and the working staff of the district. Figure 8 suggests the expertise or the personnel necessary to assure success of particular phases. Because of a variation in titles for a particular function within the organization structure of various districts the areas of expertise rather than titles are shown. Few school districts have an identified "director of evaluation," certainly a crucial role in performance contracting. In most districts, the evaluation function is loosely tied in with research

	Planning	*Implementation*	*Operation*	*Evaluation*
Board	xxx	---	---	xx
Community at large	xxx	---	---	xx
Other agencies	xxx	---	---	xx
Unions/associations	xxx	---	---	xx
Superintendent	xxx	xx	xx	xx
Superintendent's staff	xxx	xxx	xxx	xxx
Curriculum	xxx	xxx	---	xx
Instruction (teachers)	xxx	xxxx	xxx	xx
Special project direction	xxx	xx	---	xx
Test and Measurement	xxx	xx	xxx	xxx
Research	xxx	xx	---	xx
Evaluation	xxx	xxx	xxx	xxx
Personnel	xx	xx	xx	---
Finance/business/legal	xx	xx	---	xx
Operations/maintenance	xx	xxx	xx	---
Purchasing	xx	xx	---	---
Budget	xx	xx	xx	xx
Facilities planning	xx	xx	---	---

NOTE: xxx = Primary; xx = Secondary.

Fig. 8--Areas of school district expertise or staff needed for managing performance contracting

or is nonexistent. One of the impacts of performance contracting on school district organization might be the recognition of a need for a focal point for all the management activities, including evaluation. Grand Rapids has designated a Director of Contract Learning. The evaluator in Texarkana called attention to the need for a management focal point.

Once the question of who should be involved had been resolved, the districts then tackled the task of identifying the points and flow of responsibility and authority. When the number of contracted activities (outside evaluator, independent educational auditor, management support group services), in addition to the main learning system contractor, increased, so did the magnitude of this task. Each contracted activity had its own project director who had his own views of his interaction with his staff and with others involved in some aspect of the program. Again, most districts were reasonably successful in dealing with this problem once its dimensions had been defined. The establishment of lines of communication and procedures for resolving problems in the operation of the program both served to help in organizing to make the program work.

More important, the effort to identify a director of contract learning within the district had an impact on the overall benefit of performance contracting to the district. Plans for turnkey (turning the "key" over to the district) of the program or parts of the program were facilitated. Acceptance of the concept of performance contracting was made easier when information about it could be given out in an orderly fashion. The chain of command made it possible to draw on the needed areas of expertise in solving the problems of current programs and in planning for new ones.

The main problem requiring more time and effort concerns data needs and sources. The data problem has three aspects: (1) what data are needed, (2) how the data are obtained, and (3) how the data can be analyzed and the results interpreted. Performance contracting demands, as a minimum, data about the characteristics of students, the cost, and the effectiveness of the program. These data demands were not adequately met in any district for any program. But as performance contracting

enters its second active year, these data problems, having surfaced, will generate the organized searching for better ways to evaluate educational programs. In seeking to improve evaluation, the combination of the district staff, the learning system contractor, and the outside evaluator should have an impact.

ROLE OF STATE DEPARTMENTS OF EDUCATION

The school district was the principal focus of Rand's study of performance contracting in education; time and other resource limitations did not permit a complete survey of the activities of all state departments of education. The field monitoring and evaluation at the district level did, however, generate some interesting facts about the roles played by several state departments of education (SDEs).

These roles ranged from supplying funds for a first year's program to writing the request for proposal and from broad investigations of the concepts and problems of performance contracting to narrow questionings of specific procedural aspects of program operation. From the small sample of activities, it is not possible to be prescriptive about the appropriate role for an SDE. It is clear, on the other hand, that the exercise of leadership by the SDE can assist the LEA in developing the concept of performance contracting as a way to improve the effectiveness of evaluation.

For example, the SDE can smooth the path of the instructional methods of performance contracting through the tangles of the education code restrictions. If the actual student-teacher ratio of the performance contracting program is different from the specified ratio, then the SDE should objectively investigate the outcome of the different ratio in weighing the merits of a possible change. In a sense, the facts become an input to the decision process for educational change.

In the same evaluative manner, the SDE can compare categorical aid programs in, say, compensatory education with the performance contracting programs having similar objectives. In this way, the SDE assumes the task of systematically evaluating alternative programs and disseminating information about "better" programs. As a result of this evaluation, the SDE might actually uncover more effective evaluation methods as well as better programs.

Either of the tasks discussed above assumes that the SDE exerts its leadership responsibility to a greater degree than has been evident over the past several years. Perhaps, and this is not quite pure conjecture, performance contracting can play a catalytic role of its own in improving the working relationship of the SDE and the LEA.

In Colorado and Virginia, this working relationship in the area of performance contracting began with seeking districts willing to volunteer for a program. In Virginia, Norfolk and six counties agreed to undertake performance contracting programs, using Title I funds. Educational Turnkey Systems, as the management support group, the district staff, and the SDE worked to develop the RFP, arrange bidders' conferences, and select the contractor. The University of Virginia was selected as the evaluator. After the programs were set up, the interest of the SDE unfortunately paled during the operational phase. It appears as if Virginia simply wanted to "have a performance contract."

Colorado's SDE also initiated the performance contracting program in three Denver area districts. Denver was contacted but the Colorado Federation of Teachers publicly takes credit for stopping the program. The SDE funded the programs from state funds under the Educational Achievement Act which provides for reading education. The evaluator, from the University of Colorado, had a contract with the SDE. In both cases, the state was financially responsible for the evaluation but did not follow up. The apparent reasons Colorado went with performance contracting were an interest in the accountability feature of performance contracting and an availability of funds that had to be obligated or returned to the General Fund. Somewhat at odds with this activity picture of Colorado's SDE is that, as an organization, the department at this time takes "no position" regarding the desirability of specific performance contracting programs or the general concept of performance contracting.

The New Jersey SDE played a more investigative and less involved role. Their relatively close proximity to New York City led them into a relationship with the Institute for Educational Development (IED), whose main interests are evaluation and policy development. The result was a broad-brush survey of the various learning system contractors,

several conferences with district representatives and contractors, and an overall look at what was involved in planning and evaluating a performance contracting program.

The Michigan SDE took two directions: One was to work through their intermediate unit, an organizational unit between the SDE and the district, in planning for performance contracts in the 1971-72 program year. The other was to write a planning guide for the districts. Remember that the districts of Michigan also were going ahead with performance contracts. Grand Rapids and Flint had programs in 1970-71. Flint, however, was for materials and equipment only; a learning system contractor was not involved in the instructional process.

The planning guide of the Michigan Department of Education is broad but uneven in its coverage of the many facets of performance contracting. The contents of the guide, shown in Appendix D, provide the scope of the coverage. A look at two sections gives an illustration of the unevenness of the coverage. Section 2-3, "Express Needs as Performance Objectives and Design Evaluation Procedures," is very detailed and complete and goes on for three and a half pages. Section 2-4, "Request for Proposals (RFP)," discusses the RFP in one short paragraph and provides little in the way of guidance for district development of this most important means of insuring a successful performance contracting program and LEA-LSC relationship.

Section 2-2, "Develop Time Line or Critical Path," strongly suggests that a time line of activities necessary to performance contracting programs should be developed to insure a well-planned program. It goes on to state that "Serious omissions might be made if the time schedule is not designed to appropriately accommodate the tasks or if the proper intervals are not respected." As shown in Fig. 9, the rather crucial tasks and time line of planning for implementation during the period of June 15 to September 10 are omitted.

In spite of some omissions such as this and the instances of unevenness in coverage, the planning guide is good. As the documentation on this year's experience with performance contracting increases, this planning guide will maintain a high rating. It is an example of a state department exerting its leadership responsibility in the area of assisting districts within the traditional constraint of local control.

December 1, 1970	Appoint local project director
January 1, 1971	Develop school-community council
February 1, 1971	Completion of needs study
February 15, 1971	Determination of goals
March 15, 1971	Completion of performance objectives
May 1, 1971	Complete RFPs and mail to bidders
June 15, 1971	Assess bids and select contractor
September 10, 1971	Project begins
Late Sept or Oct	Pre-test
November 1, 1971	Interim evaluation
February 1, 1972	Interim evaluation
April 1, 1972	Interim evaluation
June 1, 1972	Final evaluation
November 1, 1972	Post evaluation
September 1, 1973	*Turnkey*--district implements program and continues evaluation for longitudinal study of pupil gains

Fig. 9--Illustration of Planning Time Line[*]

[*] *Performance Contracting - A Planning Guide*, Michigan Department of Education (undated).

IV. PERFORMANCE CONTRACTING, 1971-72 AND BEYOND

INTRODUCTION

The future plans of the districts that had a performance contracting program this year show a recognition of performance contracting as a technique for achieving educational needs by introducing innovative *practices* as opposed to innovative hardware-based systems. One of the assistant superintendents in a district with performance contracting observed that "it is not so much the system but merely being systematic that will succeed."* This seems to be the general feeling of the staff in most districts. The planning for performance contracting served as an activity focal point for the staff members of both the LEA and the LSC. The result was an increased awareness of the need for interaction among all areas of expertise in developing, implementing, operating, and evaluating an "educational program." The evaluative function assumed a more active and earlier role in the management of education. The teachers found that they had a channel for raising their voices in the decisionmaking process.

Problems previously rooted in the lack of interaction were identified and efforts made to alleviate them. Data and their related communication problems provide an example.

As the performance contracting program was implemented in many of the districts, the inadequacy of data became a severe obstacle. Student selection was hampered because the I.Q. scores of the students were not on file. Other evaluative data were similarly inaccessible. Provisions were made for deciding what data were needed by whom and how to get the data. The logistics of implementing the program was made more difficult because the inventory of resources within the district was out-of-date or nonexistent. Cost data by program needed for analysis had to be developed. Thus, the data needs served almost as a communication mechanism in achieving an interactive approach to successfully planning and operating the performance contracting programs.

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*Dr. Elmer Vruggink, Grand Rapids, Michigan.

The organization of the data about a program and the timely analysis of the data were both benefits realized from the performance contracting experience of the 1970-71 program year. This is an especially important benefit in the effective use of federal monies. Most of the programs were funded entirely through the various titles of the Elementary and Secondary Education Act (ESEA). In two programs a small amount of district funds was used. The feedback of the expenditure of these federal funds was more rapid and complete than usual. As will be apparent in the discussion of next year's plans, the goal of the ESEA to effect educational improvement was actively advanced.

GENERAL PLANS OF DISTRICTS IN THE SURVEY

The future plans of the districts have taken several different courses:

1. Continue the performance contract programs developed by the contractor on a turnkey basis.
2. Continue with the performance contract program without payment based on a guaranteed performance.
3. Incorporate the concepts and methods of the performance contract program into regular operations.
4. Continue with variations of the performance contract programs as an adjunct to regular programs as a
   a. Way to try out other programs with a high capital cost.
   b. Change agent in improving instructional methods.
   c. Means for introducing new materials in other areas.
   d. Means for staff development in other subject areas.
5. Continue the performance contract programs exactly as in the 1970-71 program year.

Each of these courses is planned in one or more of the districts in the planning survey. In some districts, several of the courses will be taken in the 1971-72 program year. For example, Grand Rapids will have twice the number of contracted programs next year but not all of them will be on a guaranteed performance basis. Gilroy, California, will incorporate the methods of this year's performance program as part of regular operations.

These two districts probably reflect the philosophy of the Westinghouse Learning Corporation (WLC) (one of three contractors in Grand Rapids and the sole contractor in Gilroy). The stated goal of WLC was to establish and operate learning centers for one year, turn them over to the district (turnkey) and then provide only diagnostic and prescriptive services to the district with no performance guarantee to be involved. As a corporate policy, WLC withdrew from active participation as a contractor in the LEA programs after the 1970-71 program. (A former WLC staff member has started an organization called Learning Unlimited, and is seeking performance contracts for the 1971-72 program year.) Thus, the WLC programs in their second year represent a combination of continuing the performance contract program developed by the contractor on a turnkey basis and incorporating the concepts and methods into the regular programs.

In Texarkana, performance contracting will not continue. It is possible that some of the program procedures will continue on a turnkey basis. In Norfolk, implementation of the system of the performance contracting program is well along. The materials and diagnostic tests have been purchased for the learning centers. There will be some changes in the material usage but the basic approach will be as the LSC designed it for this year. The Gary program, of course, was planned for a four-year period so that the actions taken for the 1971-72 period reflect mostly steps taken for program improvement or for remedy of specific problems.

In another district (Cajon Valley), the performance contracting program will continue exactly as conducted this year when the achievement gain of the students in the program was 30 percent greater than the students in the comparison group. The main emphasis in this program is on improving the instructional techniques of the teachers in individualizing the program for the student.

In several districts, billed as having a performance contract, only the materials were purchased but the contractor was not active in determining or supervising how the materials were used. The performance contract idea arose because the payment for the materials was being based on the performance of the students. In short, materials that might have sold for $20 on the open market were sold on a double-or-nothing basis.

If the student achieved a specified amount, then the contractor received $50 or some prorated sum for the materials sold usually for $25. These programs provided little in the way of observations about the effectiveness of planning for performance contracting and did little to substantiate the potentially powerful impact of performance contracting as a lasting change agent in the educational process.

Earlier in the report, a district was described as having taken the 1970-71 program year as a time for investigating the concept of performance contracting, identifying the educational need of the district, and ascertaining the match of performance contracting to meeting these needs. The result of this approach was that the district, with the help of Educational Turnkey Systems as the management support group, has sent an RFP to over 250 schools in its multi-district area and to 18 contractors. These are identified as internal (teachers) and external performance contracts. Separate bidders' conferences were held and proposals were expected by mid-October. The programs will begin in January. The time period between mid-October and the January start date is in line with this district's conservative approach to performance contracting. Usually the time period between the negotiations and start date has been substantially shorter--almost to the point of cutting things so close as to jeopardize the success of the performance contract. For the internal or teacher performance contracts there is an incentive payment for the teacher. The specifics of this program will be available after the negotiation period. Obviously, the results of the program will not be available until the end of the second half of the 1971-72 program year, but if a cautious and thorough approach to planning for performance contracting has a payoff, it should be in this district.

SCOPE OF PERFORMANCE CONTRACTING, FALL OF 1970

The scope of performance contracting programs in the fall of 1970 is shown in Tables 1 through 3.* With the exception of the Gary program which covers an entire K through 6 elementary school and the Philadelphia

*Tables from R-699/1-HEW, *The Performance Contracting Concept in Education*, J. P. Stucker and G. R. Hall, The Rand Corporation, May 1971.

Table 1

OPERATIONAL PROGRAMS, FALL 1970

LEA	LSC	Subject	Students		Maximum Payment (approx.)
			No.	Grades	
Boston (Roxbury), Mass.	Educational Solutions	Reading	400	K-6	$ 80,000
Cajon Valley, Calif.	Macmillan Educational Services	Reading	80	4	55,000
Colorado, State of:	Dorsett Educational Systems	Reading	(300)	(6-8)	(50,000)
Cherry Creek		Reading	100	6-8	
Denver		Reading	100	6-8	
Englewood		Reading	100	6-8	
Dallas, Tex.	New Century	Reading, math	875	9-12	256,000
Dallas, Tex.	Thiokol	Occ. skills, motiv.	875	9-12	208,000
Flint, Mich.	Dealer for E.D.L. Materials	Reading	2,160	9	210,000
Gary, Ind.	Behavioral Research Laboratories	All subjects	830	K-6	640,000
Gilroy, Calif.	Westinghouse Learning	Reading, math	103	2-4	60,000
Grand Rapids, Mich.	Westinghouse Learning	Reading, math	400	1-6	143,700
Grand Rapids, Mich.	COMES	Reading, math	600	6-9	164,000
Greenville, S.C.	COMES	Reading	480	6-9	100,000
Jacksonville, Fla.	Learning Research Associates	Reading, math, social studies, science	300	1	70,000
Oakland, Calif.	Educational Solutions	Reading	400	6-8	80,000
Philadelphia, Pa.	Behavioral Research Laboratories	Reading	20,000	1-2,7-8	800,000
Providence, R.I.	New Century/Communications Patterns	Reading	1,500	2-8	145,000
Savannah, Ga.	Learning Foundations	Reading	875	3,5,6	97,000
Texarkana, U.S.A.	Educational Developmental Labs	Reading, math, dropouts	300	7-12	100,000
Virginia, State of:	Learning Research Associates	Reading, math	(2,500)	(1-9)	(212,500)
Norfolk		Reading, math	500	4-9	
Buchanan Co.		Reading, math	500	1-7	
Dickinson Co.		Reading, math	250	1-7	
Lunenberg Co.		Reading, math	250	4-7	
Mechlenburg Co.		Reading, math	250	4-6	
Prince Edward Co.		Reading, math	250	4-6	
Wise Co.		Reading, math	500	4-9	

NOTE: Data in parentheses are overall figures for the state's contract.

Table 2

OFFICE OF ECONOMIC OPPORTUNITY SOCIAL EXPERIMENT PROGRAMS, FALL 1970

LEA	Learning System Subcontractor	OEO Grant ($)[a]
Anchorage, Alaska	Quality Education Development	444,632
Clarke Co., Ga.	Plan Education Centers	301,770
Dallas, Tex.	Quality Education Development	299,417
Duval Co., Fla.	Learning Foundations	342,300
Fresno, Calif.	Westinghouse Learning	299,015
Grand Rapids, Mich.	Alpha Systems	322,464
Hammond, Ind.	Learning Foundations	342,528
Hartford, Conn.	Alpha Systems	320,573
Las Vegas, Nev.	Westinghouse Learning	298,744
McComb, Miss.	Singer/Graflex	263,085
McNairy Co., Tenn.	Plan Education Centers	286,991
New York (Bronx), N.Y.	Learning Foundations	341,796
Philadelphia, Pa.	Westinghouse Learning	296,291
Portland, Me.	Singer/Graflex	308,184
Rockland, Me.	Quality Education Development	299,211
Seattle, Wash.	Singer/Graflex	343,800
Taft, Tex.	Alpha Systems	243,751
Wichita, Kans.	Plan Education Centers	294,700
Mesa, Ariz.	Association of Teachers	33,976[b]
Stockton, Calif.	Association of Teachers	55,154[b]

Note: Each program is for 600 children in reading and mathematics, grades 1-3 and 7-9.

[a]Includes target payment to the subcontractor and $30,000 to $50,000 for the LEA management team.

[b]This payment is in addition to regular salaries.

Table 3

TEACHER ACHIEVEMENT PROGRAMS, FALL 1970

LEA	No. of Teachers in Training Program	Target Payment ($)
Alachua Co., Fla.	40	24,000
Orangeburg, N.Y.	40	24,000
Port Jefferson, N.Y.	30	18,000
Royal Oak, Mich.	30	18,000
Yellow Springs, Ohio	40	24,000

Note: The contractor for all five programs is the Institute for the Development of Educational Activities (I/D/E/A).

and Flint programs covering materials-only, the remaining 15 contract programs averaged about $122,000 for maximum payment. These 15 programs covered a total of approximately 10,000 students and ranged in size from 80 to 1,500 students, with the typical program having 300 to 400 students.

The districts involved in both the Office of Economic Opportunity performance contracting program and in the teacher achievement programs are shown in Tables 2 and 3.

FOLLOW-ON PLANS FOR PERFORMANCE CONTRACTS

Future plans in these districts are not a part of this report. Future plans in the districts of the planning survey and other districts are shown in Table 4. This table summarizes the information available at this time. The activities in the 1971-72 program year highlight the formalization of a developing new distinction in performance contracting; contracts with district staff are identified as *internal* performance contracts and contracts with LSCs are identified as *external*. Mesa, Miami, Portland, and Cherry Creek have all developed internal contracts for the 1971-72 program year.

Table 4

FOLLOW-ON ACTIVITY TO THE 1970-71 PERFORMANCE CONTRACTING PROGRAMS

District	1970-71 Program Activity	Comment
Gary, Ind.	Continuation of 1970-71 program	Multi-year program
Gilroy, Calif.	District will operate learning centers	No contractor involvement
Grand Rapids, Mich.	Expanded performance contracting programs; Turnkey operation in several schools	Contractor involved but performance not guaranteed for all
Norfolk, Va.	District has purchased materials and will use instructional methodology	---
Texarkana, Ark.	The district will continue, on a turnkey basis, some aspects of the program	---
Muskegon Heights, Mich.	Two programs: vocational training (as planned in 1970-71) and teacher support (reading)	Both are *performance* contracts
Miami (Dade Co.) Fla.	RFPs out for bid; programs to start in January 1972	RFPs for both *internal* and *external* contracts
Portland, Ore.	Continue with wide variety of internal performance contracts	Using performance contracting for innovative methods
Flint, Mich. Philadelphia, Pa.	Both districts to continue equipment and materials-only (no instructional activity by LSC) performance contracts	---
Greenville, S.C.	Performance contract (reading) extended	Combined motivational education systems
Mesa, Ariz.	Continue with *internal* performance contracting	Was in OEO program in 1970-71
Cajon Valley, Calif.	Continue 1970-71 performance contracting prog.	Second year of 3-year program
Cherry Creek, Colo.	LSC phased out; *internal* performance contracts expanded in number and variety	District P.C. program director has his own performance contract
Jacksonville, Fla.	LRA "teacher support" contract expanded	Program increase: 270 students in 1st grade to 1100 1st and 2d graders
Dallas, Tex.	Thiokol's vocational program continued	Program success measured by both achievement and motivation.

Other performance contracting programs proposed for the 1971-72 program year are shown in Table 5. These programs are in addition to the continuation of the programs shown in Tables 1 and 4. These seven proposed programs differ in several respects from the programs of last year. Reading as the only subject of the performance contract is more predominant; funding is more diverse although still federal in source and program size (students and dollars) and on the average much larger.

Table 5

PERFORMANCE CONTRACTING PROGRAMS, SUBSEQUENT TO FALL OF 1971

LEA	Learning System Subcontractor	Status	Subjects	Students		Approximate Contract Size	Funding Source
				No.	Grades		
Dothan City, Ala.	Alpha Learning Systems	Contract	R	840	2-6	165,750	ESEA-III
Detroit, Mich.	---	Bids out	R(M)	450	9-12	275,000	ESEA-VII
Caddo Parish, La.	Quality Education Development	OPS	R&M	1,130	1-10	200,000	ESEA-I
Greenville, S.C.	CMES	Contract	R	480	7-9	98,700	ESEA-I
Fontana, Calif.	---	Bids out	R	580	1-6	165,000	ESEA-III
Chicago, Ill.	Learning Research Assoc	Delayed	R	1,800	K-6	400,000	Model cities
New York, N.Y.	Communications Patterns	OPS	R	656	1-3,7-9 (?)	17,000	?

In the 1970-71 program year, a larger share of the programs resulted from a noncompetitive or sole source negotiation. The proposed programs of the 1971-72 program year have resulted from competitive bidding. This trend is likely to continue. Federal and school district funding practices both require substantial justification for sole source selection. In the embryonic stage of performance contracting it was relatively easy to provide this justification. As performance contracting becomes more widespread and the track records of the learning system constractors become known, it will become increasingly difficult to justify sole source.

As discussed earlier in the documentation of performance contracting, both the LEA and the LSC are already adept at writing RFPs and proposals, and their skill should improve. This improvement may well result in a more effective planning process, measured both in terms of time elapsed between the start of the negotiation phase and the contract signing, and in outcome of the program itself.

POLICY IMPLICATIONS OF PERFORMANCE CONTRACTING

In its simplest sense, the management of education is concerned with determining what has to be done and how it can be done, and with organizing, administratively and logistically, to provide education, evaluate its progress, and improve its product. The concept of performance contracting appears to offer a way to effect an improvement in the management of education:

- As a change agent in the use of equipment, materials, and methods.
- By supporting changes in traditional staffing patterns.
- By improving the evaluation methodology.
- By promoting school and district reorganization.

In the 1970-71 program year, the LEA, with the active (and interested) help of the LSC, explored in a systematic manner the use of equipment and materials in providing, for the most part, reading and mathematics instruction. These materials were not new to most districts; the way in which they were used was new. Moreover, because of a stipulation in the contract, the LEA had to make a guarantee of its own--to provide a specified number of instructional hours. In essence, an hour of reading instruction became, in fact, an hour of reading instruction. This is considered by some as strong evidence of the kind of change wrought by performance contracting.

The sacrosanct student-teacher ratio has also been assaulted. A greater individualization of instruction and effective use of paraprofessionals has supported the feasibility of higher student-teacher ratios and even higher student-adult ratios. Some individual teachers contacted in, for example, Norfolk, were comfortable with the higher ratio because of the different instructional strategy. The Gary teachers' union supports the complaints of some of the teachers that the workload was exhausting. It will be interesting to observe the sources of continued resistance to change in this area.

The demand for evaluation of performance contracting programs has led to a much more highly focused effort in developing measures of educational achievement and motivational change, and in seeking "better"

tests and testing procedures. In this area, performance contracting has served, and will continue to serve, as a powerful impetus for improvement in evaluative methodology. The role of performance contracting in facilitating change in the organization of schools and districts has been discussed earlier. The only point here is that the emphasis needed for the future must be along program lines, "program" being the resources and activities necessary to accomplish the objective. It can be hoped that this will lead to the demise of organization by location or level.

The emphasis by program goes along with an observation about the effectiveness of performance contracting as a means of providing state or federal aid to districts. Because the program is subjected to an organized scrutiny absent in most categorical aid programs, there is a great deal of information about the program available during the course of the program's life and at the end of the program. There is a built-in, on-going evaluation that should be worth a great deal of money in the game of improving education by funding experimental programs.

There is one final note. Performance contracting might well provide an opening wedge for teachers in gaining a greater voice in educational management. By placing the spotlight on the classroom interaction, performance contracting makes visible many of the complaints and pleas of teachers all too often lost in the trappings of educational administration. One short example: In a well-managed performance contracting program, the decisionmaking level is moved much closer to the classroom, and the teacher can capitalize on this and increase the amount of discretionary power exercised by teachers.

Appendix A

DETAILS OF ACTIVITIES IN SELECTED DISTRICTS

This appendix provides, in greater detail, the planning and non-planning activities of various educational agencies. It is based, in part, on the literature and discussions that have accompanied the performance contracting programs implemented, or planned but not implemented, during the last three years.

Table A-1 lists 54 programs implemented during the period 1959-61, but there were undoubtedly a number of other programs that did not receive as much public attention as those shown in the table. A field study was made of 20 different educational agencies, shown in Fig. 1 of the text, with their geographical locations shown in Fig. 2. This sample of performance contracting programs examined by Rand has provided data on a wide variety of different types of planning activities. Brief descriptions of the various educational agencies involved in the planning study are presented below.

EDUCATIONAL AGENCIES

Alachua County, Florida

The county seat of Alachua County in northern Florida is Gainesville, the site of the University of Florida. There are about 100,000 residents of Alachua County, with about 23,000 students in the public school system and about 1000 teachers.

School officials emphasized that Alachua has most of the problems that a typical southern school district must deal with, one of which was compliance with a desegregation order during the 1970-71 school year. The district reorganized its structure and has created middle school movement in Florida. The immediate motivation for going to middle schools in Alachua County, however, was the desegregation order.

Table A-1

PERFORMANCE CONTRACTING PROGRAMS, 1970-71 PROGRAM YEAR

Local Educational Agency	*Learning System Contractor*	*Subjects*	*Students*		*Sponsoring Agency*	*Target Payment ($)*
			Number	*Grades*		
Anchorage, Alaska	Quality Educational Development	Reading, Math	600	1-3, 7-9	OEO[a]	444,632
Athens, Ga.	Plan Education Centers	Reading, Math	600	1-3, 7-9	OEO[a]	301,770
Boston, Mass.	Educational Solutions	Reading	400	K-6	--	120,000
Bronx, N.Y.	Learning Foundations	Reading, Math	600	1-3, 7-9	OEO	341,796
Buchanan Co., Va.	Learning Research Association	Reading	500	1-7	Va.[b]	212,500[c]
Cajon Valley, Calif.	MacMillan Educational Services, Inc.	Reading	80	4	--	55,000
Cherry Creek, Colo.	Dorsett Educational Systems	Reading	100	6-8	Colo.	50,000[d]
Clark Co., Ca.	Plan Education Centers	Reading, Math	600	1-3, 7-9	OEO	301,770
Compton, Calif	Reading Foundations of America	Reading	3,000	7	--	120,000
Dallas, Tex.	New Century	Reading, Math	960	9-12	--	256,000
Dallas, Tex.	Quality Education Development	Reading, Math	600	1-3, 7-9	--	299,417
Dallas, Tex.	--	Voc. Ed. Motiv.	960	9-12	--	209,000
Denver, Colo.	Dorsett Educational Systems	Reading	100	6-8	Colo.[d]	(d)
Dickinson Co., Va.	Learning Research Association	Reading	250	1-7	Va.	(c)
Duval Co., Fla.	Learning Foundations	Reading, Math	600	1-3, 7-9	--	342,300
El Monte, California	Hoffman Educational Systems	Reading	26	7	--	75,000
Englewood, Calif.	Dorsett Educational Systems	Reading	100	6-8	Colo.[b]	(d)
Flint, Mich.	Educational Development Labs	Reading	2,160	9	--	210,000
Fresno, Calif.	Westinghouse Learning Corporation	Reading, Math	600	1-3, 7-9	OEO	299,015
Gary, Ind.	Behavioral Research Labs	All subjects	800	K-6	--	640,000
Gilroy, Calif.	Westinghouse Learning Corporation	Reading, Math	100	2-4	--	60,000
Grand Rapids, Mich.	Alpha Systems	Reading, Math	600	1-3, 7-9	OEO	322,464
Grand Rapids, Mich.	Combined Motivational Educ. Systems	Reading, Math	600	6-9	--	164,000
Grand Rapids, Mich.	Westinghouse Learning Corporation	Reading, Math	400	1-6	--	143,700
Greenville, S.C.	Combined Motivational Educ. Systems	Reading	480	6-9	--	100,000
Hammond, Ind.	Learning Foundations	Reading, Math	600	1-3, 6-9	OEO	342,528
Hartford, Conn.	Alpha Systems	Reading, Math	600	1-3, 7-9	OEO	320,573
Jacksonville, Fla.	Learning Research Association[e]	1st Grade Subj	300	1	--	70,000
Jacksonville, Fla.	Learning Foundations	Reading, Math	600	1-3, 7-9	OEO	342,300
Las Vegas, Nev.	Westinghouse Learning Corporation	Reading, Math	600	1-3, 7-9	OEO	298,744
Luenberg Co., Va.	Learning Research Association	Reading	250	1-7	Va.[b]	(c)
McComb, Miss.	Singer/Graflex	Reading, Math	600	1-3, 7-9	--	263,085
McNairy Co., Tenn.	Plan Education Centers	Reading, Math	600	1-3, 7-9	OEO	286,991
Mecklenburg Co., Va.	Learning Research Association	Reading	250	4-7	Va.	(c)
Mesa, Ariz.	Association of Teachers	Reading, Math	600	1-3, 7-9	OEO	33,976[f]
New York (Bronx), N.Y.	Learning Foundations	Reading, Math	600	1-3, 7-9	OEO	341,796
Norfolk, Va.	Learning Research Association	Reading	500	4-9	Va.	(C)
Oakland, Calif.	Educational Solutions	Reading	400	6-8	--	80,000
Philadelphia, Pa.	Behavioral Research Labs	Reading	15,000	1-2, 7-8	--	600,000
Philadelphia, Pa.	Westinghouse Learning Corporation	Reading, Math	600	1-3, 7-9	OEO	296,291
Portland, Me.	Singer/Graflex	Reading, Math	600	1-3, 7-9	OEO	308,184
Portland, Ore.						
Prince Edward Co., Va.	Learning Research Association	Reading	250	4-6	Va.[b]	(c)
Providence, R.I.	New Century	Reading	1,500	2-8	--	145,000
Rockland, Me.	Quality Educational Development	Reading, Math	600	1-3, 7-9	OEO	299,211
Savannah, Ga.	Learning Foundations[e]	Reading	1,000		--	97,000
Seattle, Wash.	Singer/Graflex	Reading, Math	600	1-3, 7-9	OEO	343,800
Selmer, Tenn.	Plan Education Centers	Reading, Math	600	1-3, 7-9	OEO	286,991
Stockton, Calif.	Association of Teachers	Reading, Math	600	1-3, 7-9	OEO	55,154[f]
Taft, Tex.	Alpha Systems	Reading, Math	600	1-3, 7-9	OEO	243,751
Texarkana, Ark.	Dorsett Educational Systems	Reading, Math	250	8-12	--	
Texarkana, Ark.	Educational Development Labs	Reading, Math	300	7-12	--	65,788
Wichita, Kans.	Plan Education Centers	Reading, Math	600	1-3, 7-9	OEO	294,700
Wise Co., Va.	Learning Research Association	Reading	500	4-9	--	(c)

[a] LEAs were contractor for OEO. LSCs had subcontracts with LEAs.

[b] State departments of education did initial planning; contracts were between LSCs and LEAs.

[c] For all 7 Virginia programs.

[d] For all 3 Colorado programs.

[e] For the 1971 program year.

[f] Plus regular salaries.

Another response to desegregation was to institute a program of teacher training by means of a performance contract. The immediate goal of this program was to train teachers to individualize instruction. More generally, Alachua County sought to upgrade the overall teaching skills of its teachers. Still more generally, Alachua County sought to increase the qualities of its students and to hold the support and allegiance of the parents to the public school system.

Alachua County decided to enter a contract with the Institute for the Development of Educational Activities (I/D/E/A), an affiliate of the Charles F. Kettering Foundation. The program dealt with 40 teachers in two schools in the northwest part of the county. These schools had significant educational and desegregation problems. One school was Mebane with 474 pupils, 60 percent of whom were negro and 40 percent white. Mebane is a rural school in the city of Alachua, and is also a Title I school. The second school was Spring Hill in the town of High Springs with 366 pupils, 70 percent of whom were white and 30 percent negro. It is Title I eligible but does not receive any Title I money. Of the 40 teachers in the program, 19 were at Mebane, 15 at Spring Hill, and 6 from other parts of the county. Although the major thrust of the program was directed to these two schools, Alachua County hoped that the techniques taught the 40 teachers would spread throughout the county.

The I/D/E/A program was one of several programs of this sort conducted during 1970-71. The other programs are shown in Table A-2.

Table A-2

I/D/E/A TEACHER ACHIEVEMENT PROGRAMS, FALL 1970

LEA	*No. of Teachers in Training Program*	*Target Payment ($)*
Alachua Co., Fla.	40	24,000
Orangeburg, N.Y.	40	24,000
Port Jefferson, N.Y.	30	18,000
Royal Oak, Mich.	30	18,000
Yellow Springs, Ohio	40	24,000

The program grew out of I/D/E/A's earlier work with "Unipac" curriculum materials. Naples, Florida, had a program similar to the one that Alachua entered, without the performance feature.

The performance feature of the contract consisted of an evaluation by an I/D/E/A representative, the teachers' supervisor, and another representative of the Alachua County schools. I/D/E/A was to develop evaluation instruments and the team was to assess teachers on their ability to individualize instruction. A portion of I/D/E/A's fee would be dependent on the evaluation results.

Alachua has access to more planning resources than the usual southern school district of its size due to the University of Florida being located in Gainesville. Also, from a planning point of view, I/D/E/A's heavy involvement in Florida education has provided Alachua with an opportunity to study their work in considerable detail.

Cajon Valley, California

Cajon Valley Elementary School District is headquartered in El Cajon, San Diego County, about 15 miles from the city of San Diego. The district has about 1200 students and about 19 elementary schools.

The Cajon Valley Elementary School District in 1970-71 entered into a performance contract with Macmillan Educational Services, Inc., Beverly Hills, California, a subsidiary of Crowell-Collier-Macmillan Company, specializing in teacher training programs in this area. The performance contract is basically for a teacher-training program. The teacher training, however, will be evaluated on the basis of the performance of students, measured by pre- and post-administration of the Stanford Achievement Test .

The program involves about 70 students in the lower quartile as measured by standardized achievement tests plus 10 students who are below 90 in I.Q. It started in the fall of 1970 and will run three years. Macmillan could earn about $50,000 a year if all the students average 1.5 grade level increase per year for the three years. The program uses materials that were available in the school district plus some multilith materials provided specially for the program. There are some special diagnostic instruments. The main Macmillan input, however, is teacher training services.

An unusual feature of the program is that the contract covers a specific group of 80 slow readers, but these students are kept in heterogeneous classes and are not segregated in any special program.

The teachers in the program are regular classroom teachers. Macmillan has a right to request transfer for any teachers they feel are not working well in the program.

According to reports, the program produced an average gain in its first year of 1.04 years of reading. This permitted Macmillan to earn $35,000 out of the maximum possible payment of $50,000.*

Compton, California

Compton Unified School District was formed two years ago by combining several smaller districts in the southern part of the Los Angeles metropolitan region. The district lies directly south of the Watts area of Los Angeles and adjoins Long Beach. It has some of the most severe inter-city school problems in California. The district has 16,000 students from kindergarten through high school in 30 schools. About 80 percent of the students are black; the remaining 20 percent include many different ethnic groups--white, Mexican-American, Samoan, and others.

Compton's performance contract was with the Reading Foundation of Chicago, Illinois. The program covered a speed reading course for 7th grade students. Every English class at the 7th grade level received the program during the 1970-71 school year. Twelverhours of classroom instruction and 12 hours of homework were involved. The price was basically $35+ per student with a $5 bonus if 75 percent of the children met the objective of the course. The program was funded by $45,000 from Model Cities funds and slightly less than $100,000 from Compton's general fund.

The evaluation was performed by a group from the University of Southern California under the Direction of Dr. Wilson. The group used the Stanford Achievement Test on a pre- and post-basis.

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*_Educational Marketeer_, Vol. 3, No. 24, September 15, 1971, p. 2.

Compton not only faced the problems that all inter-city school districts wrestle with but an additional problem. As a new district, the administration felt it important to solicit parental support. The performance contracting program was viewed as a way of demonstrating Compton's concern with the basic reading skills of the students. Thus, in addition to the inherent goal of improving reading skills, there was the broader objective of demonstrating broader objectives of cementing school-community relations. The 7th grade was, from Compton's point of view, a particularly attractive grade for the program because more parents had children in the 7th than in any other grade.

Dade County, Florida

Surrounding the city of Miami, Florida, Dade County has 211 schools with 232,000 pupils. The Dade County Schools became interested in performance contracting during the 1969-70 school year when the reports of the Texarkana program began to be circulated. Unlike many other LEAs that expedited planning in order to get programs under way in 1970-71, Dade County adopted a very thorough and systematic approach to performance contracting.

The focal points in performance contract planning were the members of the superintendent's office concerned with curriculum development. Several staff members were involved in a research effort that covered not only the activities of other districts in performance contracting but also the reaction of the Dade County school district staff and the community to the concept of performance contracting. Great effort was placed on pinpointing potential areas within the district where performance contracting might be used. This effort was in operation throughout the 1970-71 school year. As of the fall of 1971, Dade County is still planning for a performance contract now envisioned as possibly taking place during the second half of the 1971-72 school year.

Dade County has taken the position that if performance contracting is successful in enabling school districts to learn from the practices of LSC and apply the practices as part of the regular program, they will be interested in such a program. That is, turnkeying technology is a key feature in Dade County's approach. They have taken the position

that before they begin a program they want to benefit from the experience of other districts. More important, Dade County wants to be sure that their needs and capabilities are clearly understood and to determine how to manage performance contracting in order that these needs and capabilities will be met.

Denver, Colorado

In 1970-71, there were performance contracting programs in four schools in three suburban school districts in Denver, Colorado. The districts involved were Cherry Creek, a white-Anglo upper middle-class suburb; Inglewood, a less-advantaged Anglo area; and Eastlake District No. 12 in the suburb of Northglen with a substantial Mexican-American population. The programs were conducted by Dorsett Educational Systems, the first contractor for the Texarkana performance contracting program. The contract involved $50,000 and, in addition, Dorsett sold $25,000 worth of machines and materials.

An unusual aspect of these programs is the role played by the Colorado State Department of Education. The programs were initiated by the State Department in order to provide demonstrations that the rest of the Colorado school districts might study. Also, the State Department of Education sponsored the evaluation. The Department of Education, however, strictly limited its role to getting the programs started and providing the evaluation.

The State Department's program was planned in whirlwind fashion in a period of about six weeks from the initial idea to the signing of the contracts. Mr. Byron W. Hasford, who was then Commissioner of Education for Colorado, was very interested in educational accountability and had been following the Texarkana performance contracting program. In the summer of 1970, he decided that there were sufficient monies in the Educational Achievement Act funds for Colorado to sponsor a small program. He took on the development of a demonstration program for performance contracting as his personal activity and appointed Mr. Byron Parks, a consultant for the Educational Achievement Act Special Programs Unit, to direct the State Department's involvement. In the early part of August, a 10-man delegation from Colorado attended a workshop in

Chicago, Illinois, on performance contracting. At that workshop they approached Mr. Lloyd Dorsett, of Dorsett Educational Systems, and ascertained his interest in a Colorado program. Colorado was interested in Dorsett because of his experience and also because they felt that since Dorsett needed to redeem himself after the Texarkana teaching-to-the-test scandal he might be more amenable than some other contractors to an austere program. This latter condition was important since Colorado had significant fiscal constraints. Dorsett indicated his interest.

The Colorado group returned to Colorado and recruited three districts for the program. Originally, it was thought that Denver might be involved; however, Denver was not able to respond fast enough. Apparently, union opposition to performance contracting was involved in the slowness of Denver's response.

The State of Colorado planned to do its own evaluation. State Department officials had hoped to have the evaluator under contract before they approached the performance contractor. However, the speed with which the program developed did not permit this. Consequently, after the arrangements were made with Dorsett the State Department of Education approached William L. Goodwin of the University of Colorado School of Education and recruited him as the evaluator. His contract included his evaluation plan.

Each of the districts used a different achievement test. The Iowa Test of Basic Skills, the Metropolitan Achievement Test, and the Gates-McGinty Test were used. We were informed by a person not connected with the State Department of Education but who had studied the program that the evaluation design was very fine and that Mr. Goodwin was an extremely able evaluator.

Dorsett's involvement with the programs was minimal. He furnished the materials and basic designs, but the programs were run by teachers who had been with their respective districts for some time. The programs were conducted almost on a turnkey basis.

During the 1970-71 school year the Colorado Department of Education received a number of inquiries from other school districts about performance contracting. The State Department forwarded copies of materials on performance contracting that it had collected in its study

of the concept and provided some educational consulting. The department was careful, however, to take no position with respect to the desirability of any performance contracting program or performance contracting in general. The state's position was that it had sponsored a program for demonstration purposes; school districts could observe the program and make up their minds as a result of their own studies.

Flint Michigan

Flint is a well known manufacturing center and has more than 48,000 students in its school district. The district has problems with a high rate of dropouts in the 9th and 10th grades and with a large number of high school students with a serious reading problem. To deal with these problems it decided to undertake an intensive reading program in the 9th and 10th grades, and appointed Dr. John Kouzowjian to survey available materials. He was impressed by materials furnished by the Educational Development Labs (EDL) and the district decided around Christmas of 1969 to explore the use of these materials. Around the same time, Flint became aware of the Texarkana performance contracting program and Dr. Kouzowjian became interested in a performance contract with EDL.

Flint, however, desired to organize, manage, and operate the program itself. Consequently, a performance contract with Flint would essentially have to have EDL furnishing supplies and equipment and being paid on the basis of the results of a program with which it would have minimum operating involvement. Neither EDL nor its parent company, McGraw-Hill, was particularly interested in such terms. Negotiations continued for some time but no satisfactory arrangement could be made. Flint was, however, able to make a performance contracting arrangement with a local distributor of EDL materials. The 1970-71 program involved 180 ninth graders in each of 12 schools.

A very interesting aspect of the program was the goal. This goal was defined in terms of the rate of gain. The contract specified essentially a doubling of each student's rate of achievement growth as measured by past district tests.

Evaluation plans were not developed until after the performance contract was signed. One holdup was a question of who should pay for the evaluation. Kouzowjian was of the opinion that evaluation data are of great managerial and public-relations value to LSCs and that they should pay for evaluations.

Greenville, South Carolina

Greenville is a large cotton mill city with other industry as well, located in the South Carolina Piedmont. The Greenville County Schools enroll over 56,000 students in 99 separate schools. As a result of implementing racial integration plans, the school system has been extensively reorganized. Eighty percent of the black children in Greenville are bussed at present. In the schools that we visited with performance contracting program in operation, integration appeared quite complete.

The LSC in Greenville was Combined Motivational Education Systems (CMES) of Chicago, Illinois. CMES also had a program in Grand Rapids, Michigan, in 1970-71, the subject of another Rand study.

The Greenville program emanated from interest by the Board of Education. Two members of the board became interested in performance contracting and had discussed it with some authorities outside of Greenville, They returned and approached Gordon Smith, the Director of Instruction for the Greenville schools, and got him interested.

When Smith approached his reading teachers, they were skeptical that the performance contracting program would do better than conventional remedial programs. As a result, a program involving five different reading approaches was developed and one program objective was defined as a comparison of the success of all five at the same time.

The performance contracting program involved two schools, each with two teachers and two paraprofessionals. The program originally started out with six paraprofessionals, one of whom became the project's secretary, and one of whom was let go after the first month. The paraprofessionals were carried on the CMES payroll, and the teachers on the Greenville payroll. The paraprofessional who acted as secretary also acted as substitute for the other paraprofessionals. Two hundred and forty children were involved in both grade school and senior high.

Despite the notion of evaluating the performance contracting program against four other approaches and despite $5000 being budgeted from Title I money for an evaluation, the evaluation plans were begun only long after the program was in operation. The Greenville School District tested the students at the start of the program. However, in October 1971, the school district was still debating the merits of an internal evaluation versus an evaluation by an independent firm.

CMES's original proposal spoke of raising the reading and arithmetic achievement levels of the students by at least two grade levels. This was quite an ambitious goal since, for example, 75 percent of the 1969-70 student body at Hollis Junior High School, one of the schools in the program, had a reading achievement more than two grade levels below their grade level. The average achievement gain, according to public pronouncement, was 1.3 achievement years. This represented about a doubling of the previous rate of growth. While this was a substantial accomplishment, it is considerably less than a 2.0 grade level of achievement originally proposed in CMES's proposal to the Greenville School Board.

Mesa, Arizona

Mesa is part of metropolitan Phoenix. It enrolls about 25,000 students. It is a rapidly growing area, a prosperous district, and one very attuned to educational innovation and advanced school management techniques.

The Mesa School System has had in operation for several years a program called "Curriculum and Instructional Development" (CID). This is a fund that works much like a foundation. Teachers make application for grants from the CID for innovative programs or materials. These applications are evaluated and some are approved.

This approach has led to many innovative programs in Mesa and a willingness to try new educational approaches. During the 1970-71 school year, one of the innovations that Mesa examined was performance contracting. The Mesa program was one of the projects in the OEO structured experiment. It was one of the two projects run by the teachers themselves with no contractor intermediary. Within Mesa, the project was referred to as the "Incentives Only" project. The project was contracted

to cost $38,476. Of this money, $20,400 was held in escrow for students' and teachers' rewards based on achievement. The program operated in grades 1 through 3 and 7 through 9, in three elementary schools and one junior high. There were four control and comparison schools. Regular school curriculum and materials were used with the addition of incentives for teachers and students. The target population was disadvantaged students. The Mesa Education Association (MEA) was the project subcontractor, and the contractor was the Mesa Public School System. Battelle Memorial Institute of Columbus, Ohio, was the independent Testing and Analysis Contractor (TAC) for OEO. Education Turnkey Systems provided management support systems services but Mesa did not make much use of its service.

Mesa has an active planning and development group. Much of the Incentives Only program reflects prior district plans and procedures. The rather unique planning feature is the role of the Mesa Educational Association. This group has taken the view that educational accountability cannot be avoided, that the only relevant issue is whether it will be done by teachers within the existing system of "self-governance" or whether it will come about through some kind of outside agency. MEA strongly supported the self-governance concept and thus Mesa went into the OEO program.

Muskegon, Michigan

The Muskegon Area Intermediate School District (MAISD) serves an area of about 200,000 persons on the eastern shore of Lake Michigan. Last October, the district received a $33,000 planning grant to examine the feasibility of relying on performance contracting in developing an occupation training program for high school students. The funding for the study, which terminates at the end of September 1971, was the Michigan Department of Education Vocational Division (from funds set aside "for people with special needs"). The target area is the city of Muskegon Heights (population about 30,000), inhabited mostly by disadvantaged minority groups who obtain their livelihood in the declining heavy labor occupations.

The first few months were spent in coordinating and planning with the various interests involved and in preparing a needs assessment. Last March, Muskegon sent out RFPs for training services, evaluation, and audit (the latter two went to the same companies) for a pilot computer trainee program for 15 students. MAISD set aside about $7,000 for the pilot program that will last about six to eight weeks this summer.

Muskegon has prepared a proposal for a $150,000 follow-on grant to finance the first year start-up and operating costs for a full-scale program in the Muskegon Heights High School (1,000 students, 75 percent black). The plans are that the students would spend the first few months organizing their Career Development Center, let an achievement-motivation contract around Christmas, and let contracts for about eight vocational programs in the spring semester.

One very interesting feature of the MAISD program is that it involves vocational education instead of the more usual reading and mathematics. There have been some other vocational education programs under performance contracts. Dallas, Texas, had a vocational education program in 1970-71 under a performance contract with Thiokol. Dallas intends to expand its vocational performance contracting programs such as those that have been run in Dallas and Muskegon.

Another instructive aspect of the Muskegon program is its elaborate planning process. Muskegon began its program in October 1970. It obtained from the Michigan Department of Education, Vocational Division, a planning grant of $33,000 to examine the feasibility of applying performance contracting to occupational training for high school students. The program was put under the direction of Mr. Lon Griner, formerly an aerospace engineer. As an employee of the Brunswick Corporation, he had studied the performance contracting concept. He was extremely anxious to apply this approach and was an enthusiastic project director for Muskegon. He also brought to his job many aerospace engineering planning techniques. The program has featured very detailed periodic planning documents, scheduling, milestone reporting dates, and like systems planning techniques.

The first few months of the project were spent in coordinating and planning activities with the various groups involved and preparing

a needs assessment. In March 1971, MAISD sent out RFPs for training services evaluation and audit for a pilot computer-operated trainee program for 15 students. Muskegon set aside $7000 for the pilot program for the summer of 1971.

During this time, Muskegon was also preparing a proposal for $150,000 follow-on grant to finance the first year start-up and operating cost for a full-scale program in the Muskegon Heights high school. The plans were to spend the first few months organizing the career development center. Then an achievement motivation contract would be let around Christmas 1971 and contract for eight vocational programs in the spring of 1972.

Ultimately, MAISD plans that the career development center would have a three-part program. During the first two or three years, students would be introduced to career possibilities, and would also receive achievement motivation. In their junior and senior years in high school they would enter into specific job training programs. The Muskegon concept was also to contract separately for each of the vocational programs, each program involving 15 to 30 students. Eventually, Muskegon hoped that 80 percent of the senior class would be involved in the vocational program, and that 100 percent or all of the high school students would be involved in the achievement motivation training. Unlike most programs, there was no turnkey concept in the MAISD plan. MAISD encountered some difficulty in obtaining responses to the RFP for their pilot program for computer programmers. The modest scale of the project and the extremely specific RFP apparently discouraged many contractors. In any event, MAISD had received only one response, and it was not entirely satisfactory.

In January 1971, Muskegon increased its management team by adding Mr. Floyd Cook to Griner's staff. Cook is a mechanical engineer by profession. He is also black, which assists him in the student relations that are part of this job. Cook and Griner each have the title of Performance Contract Implementer.

New Jersey

New Jersey presents another example of a state education agency

taking the lead in planning for performance contracting. The New Jersey State Department of Education became interested in performance contracting during the 1969-70 school year. The staff decided that it should provide planning services to districts that might be considering performance contracting. As a result, New Jersey engaged the Institute for Educational Development of New York City to assist in developing materials that would be of assistance to local educational agencies in New Jersey.

The Institute for Educational Development and the New Jersey State Department of Education began a two-pronged attack: (1) They began to solicit districts in New Jersey that might be interested in performance contracting, and (2) to develop lists of companies interested in providing services and materials under performance contract arrangements.

On June 15, 1970, the State Department of Education and IED held a conference on performance contracting in which many authorities on performance contracting appeared. Discussing performance contracting were such educators as Edward Trice, the superintendent from Texarkana; Rogers Barton from Dallas; and Charles Santangelo from San Diego. Albert Mayerhofer and Lewis Walker appeared from USOE, and a number of representatives of educational business firms spoke.

The meeting did not lead to any performance contracting programs in New Jersey during the 1970-71 year. Nonetheless, the New Jersey State Department of Education continued to provide consulting services and materials to New Jersey school districts that were exploring the performance contracting concept with an eye to possible programs later. An official in the New Jersey office, Robert Weber, was given cognizance over these activities.

Philadelphia, Pennsylvania

The Philadelphia city schools serve almost 289,000 pupils in 269 schools. During the 1970-71 school year, there were two performance contracting programs in operation. One was part of the OEO structured demonstration in performance contracting; Westinghouse Corporation was the LSC. WLC also had four other performance contracting programs, two of which--those in Grand Rapids, Michigan, and Gilroy, California--were subjects of Rand study.

The other performance contracting program in Philadelphia was with BRL, the contractor for the Gary program and the subject of a Rand in-depth study. The BRL program was in District 4 of the Philadelphia school system and fundamentally consisted of BRL's basic reading package, Project Read, which was sold for around $20 per student. However, in some cases, notably District 4 of Philadelphia, BRL offered to provide Project Read on a "guaranteed" basis at a price of $40 per student, i.e., twice as much as on a nonguaranteed basis. For the $40, the district received special in-service training and management help, and a guarantee that if a student did not progress at the rate of one achievement year per year of schooling, the district would not have to pay anything. The project involved 12 schools in grades 1 to 7 and 8.

Performance contracting in Philadelphia during the 1970-71 school year had had a hard row to hoe. There was a long teachers' strike. Moreover, the district was in the process of learning to live with decentralization. Philadelphia divided its school system into a superintendent's office and eight subdistricts including District 4, which had the BRL contract.

Philadelphia is proud of its central research and evaluation branch and anxious that programs in the subdistricts make use of its support. Each subdistrict has a staff for planning, designing, and evaluation, with a planning team in each district. Thus, Philadelphia had a great deal of in-house capability with respect to planning and evaluation. It is interesting to note that the BRL contract with District 4 also called for an independent evaluation.

The performance contract in District 4 was an outgrowth of a decision to instigate a systems approach to reading improvement. Each of the subdistricts was chartered to develop the approach independently and to proceed in any manner the district might feel is appropriate. As a result, one or another of the subdistricts examined almost every approach or materials available in the educational market. Since performance contracting during the 1969-70 school year was much in the minds of people interested in reading improvement, it was natural that one of the eight districts in Philadelphia might decide to experiment with this approach. Only District 4 decided to go with performance

contracting. It is important to note, however, that each of the other eight districts also had a special reading program so that in 1970-71 Philadelphia had a wide variety of different approaches to compensatory education in reading under way.

Portland, Oregon

Portland is one of the two school districts known to Rand that had performance contracting programs in operation during the 1969-70 school year. Unlike Texarkana, however, Portland's programs received relatively little attention during that school year. The Portland schools serve about 75,000 students. The school district is decentralized and the Portland performance contracting programs took place in Area 2, which encompasses most of Portland's inner city. The performance contracts reflect in large part the interest of Area 2 Supervisor of Research James Holmes. Having become intrigued with the possibilities of using performance contracting to increase instructional effectiveness, Holmes implemented two contracts last spring and four contracts during the five-week summer session.

The contracts were all relatively small, and were initiated in the spirit of experimentation. Two of the programs were "bi-contractual" (district-teacher, teacher-SES), two were performance contracts with teachers, and two were contracts with outside suppliers for materials and equipment only. Despite its relatively humble scope, the Portland experience is interesting because of its variety and because Holmes conceived and implemented these programs with little or no knowledge of Texarkana, the OEO plans, or plans in other districts. Aside from looking at basic instructional effectiveness, Holmes' intent was to investigate the willingness of regular teachers to gamble with their salaries, and to investigate the effect of performance payment plans on their initiative. In the materials-only contracts, Holmes was especially interested in the provisions that require the district (hence, the teachers) to guarantee instructional hours; he speculates that the regular staff tends to short-change pupils on actual reading instruction. As for benefits derived directly from the suppliers, he feels that the consulting aid was almost as important as the materials and techniques.

The spring programs were pre-tested in December (the programs started in January) and post-tested in May.* The summer programs were pre-tested in June and post-tested in September, even though the program ended in mid-July; Holmes was not interested in achievement gains that are not carried over into the fall semester. He also hoped that the delayed post-test would encourage teachers to volunteer some follow-through activity during the intervening months, but very little materialized. ITBS was used for all testing.

There was no performance contracting during the 1970-71 school year. This is partly because Holmes became Area Administrator for Area I; besides the fact that he is now in a different area, his new job description gives him less freedom to implement. He welcomes this state of affairs because it is giving him the opportunity to analyze this last year's experience, and to prepare a proposal for a much wider-based performance contract for the 1971-72 school year. His role for next year will be to recommend, but not to implement.

The paragraphs below outline the six programs in moderate detail.

Boise Elementary School. The first contract obligated Audio Visual Supply Company to set up a reading lab consisting of two kinds of EDL reading machines, the controlled reader and the audex. The district paid the contractor $1157.30 for a five-month lease plus materials. No fee was charged for the 45 hours of training provided by an EDL consultant. The lab was intended to serve one hundred 6th, 7th, and 8th graders at Boise School in classes of 20 or less. The district was to supply the room, the furniture, and a full-time teacher. At least 80 hours of instruction were to be given each pupil.

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*Historically, the expected growth in upper elementary grades is about eight months per year. Portland tests its Title I youngsters every other month with ITBS. Test results are fed into their "Instructional Management Information System" which provides diagnostic information to teachers, principals, and counselors. Teachers also make subjective assessments as to grade placement. The output of the system, which seems fairly well refined, facilitates both subjective and objective monitoring of changes in the students' grade placement and growth rate. The system also plays a major role in the Portland schools' transition to a continual progress, or nongraded, program.

The objective was to obtain an average 9 months' growth for those pupils receiving at least 80 hours of instruction. Up to 90 percent of the contractor's fee would be reimbursed to the district, depending on the extent achievement fell below the goal. As it turned out, the overall average gain was about four months; the contractor was not required to make any reimbursement because absenteeism was so high.

King Elementary School. Homes had drawn up a proposal for a similar contract with the Open Court Publishing Company. At stake would be a $1505 fee; failure to provide an average 10-month growth in 7th and 8th grade reading achievement would require a proportional reimbursement of the fee. Upon being informed of the forthcoming Open Court program, the five reading teachers expressed the opinion that their own program was just as effective. Holmes then offered them the same contract and the teachers agreed, requesting that the fee be earmarked for instructional materials rather than for their personal use.

Expected growth without a special program was three to four months. Accordingly, the teachers adopted a conservative strategy and decided not to spend much of the fee until the end of the program. This was prudent since the students gained only about four and a half months; the teachers had to return about half of the fee.

Woodlawn Elementary School. At Woodlawn, summer session reading teachers were offered a continuum of options under which they could risk their entire $700 wage, a small percentage of their wage, or some amount in between; the maximum fee allowable under the payment formula would be $2000, but performance losses would cost the teachers money. None of the teachers were interested.

About this time, Open Court Publishing Company had been pestering Holmes for a foothold in the Portland schools, so he talked them into writing a salary-guarantee contract directly with the teachers. Only one teacher was interested, but he was able to persuade four others to go along on a team basis.

Under the final arrangement, Holmes wrote a performance contract with the five teachers that would impose negative payment if there was negative gain (a real possibility since the post-test was scheduled for two months after the end of the summer session), but would pay them

up to $200 per "weighted" pupil (this is explained below). In turn, the teachers wrote a contract with Open Court under which (1) Open Court's methods and materials would be used at no cost to the district, (2) Open Court would guarantee the teachers payments at *$900*, and (3) the teachers would turn 80 percent of any payment earned in excess of $900 over to Open Court.

To compensate for increased instructional workloads associated with groups of pupils with remedial needs, the number of pupils used to calculate payments was determined by the following formula:

$$WP = GP/(AL \times NP)$$

WP = weighted pupils,
GP = average pupil grade placement,
AL = average reading performance level,
NP = number of pupils.

The amount of money paid by the district to each teacher was determined by the following formula:

$$\text{Payment} = (WP \times AG \times 10)/NT$$

where AG = average gain,
NT = number of teachers,
10 = scaling factor.

Boise Elementary School. A similar arrangement was set up between the district, one teacher at Boise school, and the Audio Visual Supply Company. In this case, the company guaranteed $500 of the teacher's salary, and any excess payment would be shared equally with AVSC; the teacher thus risked $200 of his salary but had a higher gain potential than did the Woodlawn team. Apparently, 25 percent of the teacher's guarantee went to the company's consultant. The reading lab was presumably equipped with EDL reading machines.

Sabin Elementary School. No teachers were interested in performance contracting at this school, so Holmes contracted with Larrabee & Associates for equipment and materials only. The district leased a

Hoffman reading system from Larrabee for $400. If the pupils averaged less than twice their expected gain, the entire $400 was to be reimbursed; otherwise, there would be no reimbursement. There was an extra consultant fee of $50.

The expected gain was calculated as the product of the pre-test reading achievement rate and the number of instructional months. This basis seems unfair to the contractor in view of the two-month delay until post-testing.

King Elementary School. Holmes found one teacher at this school who would put her whole salary on the line. The contract was the same as that with the Woodlawn team except that any special materials would be provided by the teacher, and there was no one to guarantee any part of her salary. On the other hand, she would not be obligated to share any part of her earnings with anyone.

San Diego, California

San Diego is another large school district, serving 129,000 students. The San Diego schools have engaged in an extensive planning operation in connection with possible performance contracting programs. Their plans are of interest for two reasons: The first is a rather sophisticated approach to defining contract payments. The second is the use of a nonperformance contract as a prelude to a performance contract. San Diego began planning for a performance contract during the 1969-70 school year, and developed three programs for possible implementation in 1970-71. San Diego attempted to get Title III money from the State of California but ran into several problems. One of the problems was that they had intended to contract with the LSCs as "consultants" on a sole-source basis. A legal opinion, however, ruled such a procedure illegal. Consequently, they were in a position where they had to redevelop their programs on the basis that they could be put out for bid.

As already mentioned, San Diego performed substantial and sophisticated analysis of its objectives. One of the defined goals for a performance contract was to reach all disadvantaged children, not just those on welfare or from the very poorest areas of San Diego. Another decision San Diego reached was that it was interested only in firms that

were "producers" of educational materials and not with firms that were simply users or implementers. They felt that as a contractor was likely to fail in his first effort, a "producer firm" could more easily reorganize or alter approaches.

The basic definition that San Diego adopted to define achievement goals was based on the total distribution of achievement test scores in the districts. San Diego decided that it did not like evaluation schemes based on average student achievement as this might allow some children who responded well to the program to be balanced against others who did not respond. Therefore, San Diego developed an evaluation scheme based on the difference between the complete profile of the target population and the overall profile of the district of San Diego as measured by the Stanford Achievement Test. San Diego's performance contracting goal, under this approach, would be to reduce the discrepancy between the two profiles. This would require that substantially every student in the target population would have to improve. In developing this approach, San Diego had the assistance of Eric Lindeman, Professor of Education at UCLA, who assisted with the profile analysis and developed several computer programs for implementing it.

During the 1970-71 school year, San Diego City Unified School District let a contract to Educational Development Laboratory/Coast Visual Education Company for installation of its "Listen-Look-Learn" instructional system in selected kindergarten and first grade classes. The program was to be evaluated on the basis of pre- and post-program administrations of "My Skills Sheets" recording the achievement of the behavioral objectives of the program. Put differently the program was essentially to be evaluated on the basis of a criterion-referenced or learning mastery criteria.

A second interesting feature of the program was that the last clause in the contract stated that:

> Educational Development Laboratories/Coast Visual Education Company agrees to enter into an achievement guarantee contract, if the program is extended for a 2- or 3-year period providing the mutually agreeable conditions can be arrived at and appropriate achievement guaranteed contract can be agreed to that would be appropriate for inner city children.

The addendum to the San Diego-EDL contract contained nine conditions for a performance contract. They are quoted here in full:

> Conditions to be met by San Diego to qualify for entering into an achievement guaranteed contract would be the following:
>
> 1. Mutually agreeable historical base line data be established.
>
> 2. A meaningful and appropriate research design can be mutually agreed to.
>
> 3. The basic instructional program the Listen Look Learn. Any additional materials to be used will be mutually agreed upon by the Director and Director of Educational Planning, Coast Visual Education Company.
>
> 4. All teachers teaching in the designated schools and who would normally be teaching kindergarten and first grade classes be given an in-depth orientation of Listen Look Learn and the professional option of teaching the program or transfering.
>
> 5. All teachers accepting the assignment to teach Listen Look Learn will attend the scheduled teacher pre-service and in-service workshops.
>
> 6. The students of any teachers unable or unwilling to successfully implement Listen Look Learn will not be considered a part of the guarantee. The teachers and students can remain with the program but the results of their achievement will not be guaranteed. A teacher's competence in implementing Listen Look Learn will mutually be agreed upon by Director and Director, Educational Planning, Coast Visual Education Company.
>
> 7. Funds be appropriated for a full time project consultant for years two and three.
>
> 8. A reserve of back-up teachers and teacher aides be trained to substitute for regular teachers and aides when needed.
>
> 9. Students to be considered for guaranteed achievement must be in attendance 80% of the duration of the project for any given level of achievement guarantee.

San Francisco, California

San Francisco's school district serves almost 94,000 students in 124 schools. It has the planning and evaluation services typical of school systems of this size. During the 1969-70 school year, San Francisco became interested in the Texarkana program and did the actual

planning for a possible program in the 1970-71 school year. This program was never implemented, however, because during the initial planning phase it was decided that the impacts on the San Francisco school system would not justify the likely benefits.

Virginia

During the 1970-71 school year, the State of Virginia sponsored a seven-program demonstration of performance contracting. Sponsorship involved the initial planning of the project, recruitment of LEAs interested in participating, initial contact with contractors and general assistance in contract selection and negotiation, and sponsorship of the evaluation. Sponsorship did not involve direct contracts between the state and the contractors, selection of the contractors, or management of the projects. The local LEAs had direct contracts with the LSC but these were coordinated. The same LSC operated in all seven districts. Learning Research Associates (LRA) was selected by a committee of representatives of the LEAs involved. The evaluation was handled for all seven districts by a contract with Professor Woodward of the University of Virginia in Charlottesville.

The performance contracting demonstration was part of the Title I activities in the State of Virginia. Superintendent of Public Instruction Mr. Woodrow W. Wilkerson became interested in performance contracting during 1969-70, and decided to have a Title I demonstration during the 1970-71 school year. The Department of Instruction selected the participating districts by choosing three regions with a heavy concentration of Title I students. These were Southwest Virginia (Appalachia), Southside Virginia (with a heavy negro population), and the eastern part of the state. In each of these areas the counties with the highest poverty populations were determined and the choice was made by drawing the names of the counties at random. This led to the selection of one county in each area. In order to get a sufficiently attractive financial proposition for contractors, two adjacent counties to each of the counties selected were then designated. This involved the program in three adjacent regions in the Southwest and Southside of Virginia. The city of Norfolk made the seventh project.

In developing the project, Virginia had available the services of a management support group, Education Turnkey Systems of Washington, D.C. This support group assisted both in developing the program, which was embodied in a request for proposals sent out to contractors, and in developing a contractor selection procedure. The State of Virginia used a competitive source selection procedure because it was ruled that the sole source arrangement would be illegal.

Originally, Virginia hoped to have programs in both mathematics and reading. It became difficult to implement this and the program as implemented involved only reading. Virginia also hoped the program would operate exclusively on the basis of content-referenced tests, but it turned out that this was not feasible so that the program involved in the RFP covered both achievement testing and criterion-referenced testing.

Also, Virginia had originally thought in terms of about $100 per pupil with the teachers to be paid out of the school budget. This budget was cut to $85 per student because the delay in getting the program under way meant that it could not operate a full year.

Virginia had hoped that the program would involve reading and math specialists at the state level with the reading and math specialists at the local level. The State Department of Instruction hoped that one outcome of the contracting process would be development of behavioral objectives. In principle, the decision to go ahead with the program having been made by the State Board of Education late in July meant that there was ample time for the development of behavioral objectives.

Textbooks for the program were of some concern to the State Department of Instruction. There is, however, provision for experimental material. Thus, the program specified that it would use either state-approved texts or that permission for use of material on an experimental basis would be made.

Virginia continued to use its management support group during the implementation phase of the program. The services of Education Turnkey Systems were made available to the participating LEAs.

Yuba County, California

The experience of the Yuba County Schools, headquartered in Marysville, is an instructive example of "over-engineering" projects. Yuba County schools served, during 1970-71, as agent for a consortium of 13 Northern California county school districts that wanted to improve mathematics instruction. It was decided to try a performance contracting program. The result, in the apt phrase of the *Educational Marketeer*,* was that "They Gave an RFP and No One Came."

The RFP called for a program to increase the positive attitude of mathematics teachers. Payment for the in-service project would have been based partially on standardized testing of student achievement and partially on "improved" teacher performance. The "teacher improvement" was to be measured by a system to be designed by the Yuba County schools. Mr. Allen Buckner, project director for the proposed program, confirmed to us that the RFP was circulated among 48 institutions, agencies, and private companies, but no proposals were returned. Some potential bidders stated that the intangible "teacher evaluation" turned them off. In the opinion of another contractor, the proposal or the RFP was so complex that it would cost more than the contract price to prepare the proposal.

The preparers of the RFP sent out a questionnaire to see why there were no responses to the RFP. The questionnaire contained eight items, which were as follows:

1. Funding level unsatisfactory.
2. Accountability requirements.
3. Insufficient time for development.
4. Insufficient time for implementation.
5. Specifications generally too restraining.
6. Possible political ramifications.
7. Behavior modification requirements.
8. Other.

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*Vol. 3, No. 9, February 1, 1971, p. 2.

The responses provided little constructive help to the preparer of the RFP for his future efforts. The two items checkdd most often were (3) Insufficient time for development and (4) Insufficient time for implementation. The next most checked item was (2) Accountability requirements, followed by (1) Funding level unsatisfactory.

The RFP was uneven in terms of content. It was difficult to determine the objective or the goal of the program. The contract price was $38,000. The performance contractor was required to physically cover the wide geographical area of 13 sparsely populated northern California counties. For this reason, transportation costs in performing the program would have been a significant part of the program cost. Another interesting aspect of this RFP is that the management demands seemed to overshadow the educational content of the RFP. Seemingly excessive safeguards were set up to insure that every step of the contract throughout its life would be subjected to intensive work performance and cost audit. The contractor was required to develop a work schedule delineating each task. This work schedule was then to be used to plot work accomplished and to show the actual cost in terms of expended energy and resources related to the specific tasks. These were to be measured in dollars or hours. The periodic reports by the LSC included a monthly planned value of work *scheduled* and a monthly planned value of work *accomplished*. In addition, the program variance was to be calculated. Program variance was defined as the difference between planned and actual energy and resources expended to achieve work package tasks. In this case, however, all was not lost. The Yuba County Schools Office proceeded to develop programs involving the training of 500 mathematics teachers and covering the 13 northern California counties. Thus, it could be said that their effort in developing an RFP was not wasted.

Appendix B

ILLUSTRATIVE PROPOSALS

PROPOSAL SUBMITTED TO

LOCAL EDUCATION AGENCY

IN RESPONSE TO RFP FOR TEXARKANA DROPOUT PREVENTION PROGRAM

BY

EDL/McGRAW-HILL AND ARKANSAS SCHOOL SUPPLY, INC.

FOR

READING AND MATHEMATICS COMPONENTS

August 13, 1970

INTRODUCTION

The performance, experience, and accomplishments of the Educational Developmental Laboratories, Inc., a division of McGraw-Hill Book Company, in developing a laboratory concept and a systems approach to learning can make a direct contribution to the Texarkana Dropout Prevention Program in its goal of preparing selected students to develop and acquire the skills and competencies needed to change their pattern of unsuccessful achievement.

EDL/McGraw-Hill and Arkansas School Supply, its franchized representative, propose to act as Contractors for the reading and mathematics components during Phase II of the Texarkana Dropout Prevention Program. The intent of the Contractors during this one-year period will be to change the achievement patterns of students selected by the Texarkana Local Education Agency (LEA) in an educationally significant manner.

The unique concept proposed for the Texarkana Dropout Prevention Program will involve a laboratory approach specifically tailored to meet the needs of the selected students. An optimal environment for learning-growing will incorporate the EDL systems to provide essential components for academic success and the development of skills and competencies required to make these students capable of competing with their peers.

EDL Philosophy of Instruction

Since its inception in 1954, Educational Developmental Laboratories has devoted itself to identifying those elements of learning needed for successful achievement and developing techniques and materials that will enable students to develop those component aspects of learning into high level skills. This unique approach to learning has enabled EDL's programs to provide teachers and students with tools of learning that produce results demonstrably superior to those produced by more traditional methods. EDL brings this history of performance to the unique challenge offered by the Texarkana Project.

Learning involves many different processes of seeing, hearing, perceiving, assimilating, conceptualizing, understanding, and reacting. These processes are so closely related and interrelated that it is impossible to treat them in isolation, either from the standpoint of measurement and evaluation or from the successful application of instruction. Further complicating the learning pattern are such individual variables as maturational level, state of physical and mental health, modality preference of learning style, mental capacity, and present state of conceptualization.

EDL is aware of the multi-faceted nature of the learning process and has designed instructional programs with these considerations in mind. The EDL instructional materials selected for use in the Rapid Learning Centers were chosen by EDL consultants to provide for the interrelated treatment of these multi-faceted elements of learning. It is the blending of these interrelated components into a system that produces a dynamic learning experience in the laboratory setting. EDL research has shown this concept of dynamic interrelated learning materials to be more effective than the one-dimensional approaches used by more traditional methods.

Systems Approach to Curriculum

The curriculum proposed for this project assumes a systems approach in which provision is made for the interdependency and interaction of teacher, student, instructional approaches, materials, physical facilities, and schedules in a manner that provides the most motivating and efficient learning atmosphere possible.

Affective Related Instructional Features

The laboratory structure designed for Texarkana students will provide a unique set of physical and psychological factors which will combine to increase the students' ability to learn and, thereby, attain the educational goals required. Among these features are the following:

1. Motivational Aspects of the Program

   The instrumentation inherent in the systems approach to teaching-learning has been proven to be extremely successful with underachieving students who have been unsuccessful in their academic careers. Male students are particularly motivated because of the active rather than passive role they can assume during the learning process.

2. Multi-sensory Implications of Multimedia Instruction

   An individual's preferred learning style may favor visual, auditory, or kinesthetic inputs and responses. The multi-sensory features of the proposed system provide every student with the opportunity to capitalize on his preferred learning style. The multimedia instruction provides visual instruction through books, projected material and tachistoscopic exposures; auditory instruction through tape recording and supervised sight-sound lessons; and kinesthetic instruction through manipulative materials.

3. Individualization of programs

   With the variety of materials and learning sequences recommended for the Texarkana Program, each student will be able to begin working at a level in which he can be immediately successful. This pattern of success is strengthened as the student progresses through cycles and levels of instruction at an individually determined rate. Activities involving small groups and individual students are provided so that a balance of instructor-directed, student-directed, and individual activities can be attained.

4. Identification Figures

   Instructional staff will be selected for their ability to empathize and relate successfully with students of this population. It will be particularly important to select staff members who can provide their students with a positive model. It is for this reason, among others, that the Contractors stipulate approval of staff members.

5. Ungraded Program Content

All materials used in the instructional systems utilize adult level content of ungraded nature. Student learning growth is related to skill achievement only, as it is important to present a new instructional model that students will not identify with previous, grade level oriented, models which they associate with non-success. It is only through ungraded program content that individualization of instruction can be effected as students entry level and rate of progress cannot be restricted by traditional grade level designations.

6. Positive Reinforcement of Successful Responses

Instrumentation and programming used in the EDL instructional systems provide immediate positive reinforcement for successful student responses. It applies no personal bias to negative reinforcement of unsuccessful responses so that the student ego is not threatened by teacher disapproval or correction. This factor is essential for success with students whose experience with academic failure is identified with teacher disapproval.

(NOTE: Upon request, EDL/McGraw-Hill will supply a bibliography of published research that supports the statements concerning Affective Instructional Features.)

Summary

In summary, the proposed educational program will provide an environment in which a student will be able to examine his abilities and deficiencies, reassess his own potential, and begin to grow toward his desired educational level. It is the contention of many psychologists and anthropologists that achievement motivation is prerequisite to success for an individual or for a group. It is important, therefore, that students who have little background of success on which to evaluate their own worth or their potential be placed into a wholly new environment, an environment in which they can succeed with a set of meaningful tasks. Development of dormant academic achievement and qualities of leadership and an understanding of goals and the relationship of goals to abilities will lead the student toward self-actualization.

SPECIFICATIONS FOR THE EDL TEXARKANA DROPOUT PREVENTION PROGRAM

EDL/McGraw-Hill and Arkansas School Supply, its franchized representative, propose to act as Contractors for the reading and mathematics components during Phase Two of the Texarkana Dropout Prevention Program. The intent of the Contractors during this one-year period will be to change the achievement patterns of students selected by the Texarkana Local Education Agency (LEA) in an educationally significant manner.

The Contractors propose that a relationship be established between the LEA and the Contractors in which each will provide and supply that part of the total program requirement for which it is equipped and prepared. The guidelines under which this relationship can be achieved are as follows:

Curricula

The Contractors will select the curricula for use in the reading and mathematics components. The learning systems proposed for use are individualized, skill-oriented, multi-media systems which provide the instructional staff the opportunity to diagnose and remediate the specific areas in which the student has skill deficiencies. The individualization inherent in the systems will allow each individual student to progress as rapidly as he is able, while the structure of the interlocking aspects of the program and the evaluation tools built into the system provide the safeguards required to assure educators that wide areas of skill development are not being ignored. The structure of the curricula selected and the rationale of each component of the systems are provided in Appendix A.

Instructional Staff

LEA will select teaching staff from its districts for training and continued teaching activities within the Rapid Learning Center. The participating teachers will be compensated by the LEA according to existing contract schedules of reimbursement with the district from which they are selected. Ten English teachers and ten mathematics teachers will be selected and, with the final approval of the Contractors, be scheduled for a five-day, forty-hour training period prior to installation of the systems. Four additional teachers will be selected and trained concurrently to provide a corps of trained specialists who will be able to continue the instructional program if any staff members are unable to complete the year due to extended illness or normal teacher attrition. The twenty-four

teachers trained by this process and the twenty who will participate in classroom activities during Phase Two will form a nucleus of trained professionals within the Texarkana districts who can be used as resource teachers or staff development consultants during subsequent phases of the Texarkana Dropout Prevention Program.

Curriculum Manager

The Contractors will select a Curriculum Manager who, with final approval by the LEA, will become a full-time curriculum consultant to the teaching staff. The Manager will be paid by LEA but be responsible to the Contractors. The Curriculum Manager will be trained by EDL staff in its Huntington, New York, facilities during a two-week period preceding system installation and will assist EDL staff during the five-day teacher training session. For the duration of the contract, the Curriculum Manager will work in the Rapid Learning Centers with the teaching staff. Approximately one day each week will be spent by the Manager in each Center to direct student diagnosis and placement in system activities and to supervise classroom management of the individualized program.

Staff Training

The twenty-four Texarkana staff members will participate in an intensive forty-hour training workshop prior to the installation of the systems. This training will be concentrated on the areas of specific curriculum selected, rationale and philosophy of the systems, and classroom management. Intensive instructional segments of the training will be interspersed with hands-on training with the instruments and equipment used as instructional tools. The district teaching staff will be compensated by LEA for all time spent in training workshops according to existing contract schedules of reimbursement in effect within the district. LEA will provide suitable space and facilities for the training workshops. The training schedule to be followed is provided in Appendix B.

Performance Objectives

The Contractors will provide performance objectives to the Project Manager and to LEA. These objectives will be used as interim and final measures of student achievement and, therefore, system effectiveness. The objectives will be selected from those related specifically to the systems and will include such measurement tools as Reading Efficiency Checks, eye movement graphs as measured by the Biometrics Reading Eye II, and achievement tests that are a part of the evaluative structure of the systems and components. The achievement of these criterion referenced performance objectives will constitute twenty-five percent of the measurement of the performance guarantee.

Student Tutors

Student tutors will be selected from the total sample for two purposes. The primary function of the student tutor program will be the advancement of achievement levels for both selected tutors and the remaining students in the laboratories. The secondary function of the student tutor program will be the establishment of an ongoing intrinsic reward structure for students who have shown strong growth patterns. Students can be selected from within the lab to devote a portion of their laboratory period to one-to-one tutoring of their peers. Students will be assigned as tutors for two-week periods, with the right of reassignment and will be paid an hourly fee for their work. Student stipends will be dispersed through the Program Fiscal Agent of LEA and with monies supplied by them.

Dropouts

All students identified as potential dropouts by LEA and scheduled into the Rapid Learning Centers will be accepted for inclusion within the student sample that is used to determine the educational performance of the Contractor's instructional systems. Although LEA makes a five per cent dropout allowance in the RFP, the Contractors waive the right to exclude any students from the sample, other than allowable dropouts defined in Appendix C, as they realize that the goal of the Texarkana Dropout Prevention Project is to improve the learning achievement of all students, not just those most likely to achieve.

Performance Gruarantee

The Contractors will accept a bonus payment, a standard payment, or a penalty for each student according to a schedule of costs for programs and materials attached. A fixed cost for programs and materials will be assigned to each student and will be represented by two achievement points (one for mathematics and one for reading) for computational purposes. At the conclusion of the contract period, computation of Contractor payment will be based upon the achievement points generated according to the following schedule:

1. A one achievement-point standard payment which implies no bonus or penalty to the Contractors will be allowed for each student who exhibits a growth of one to two years (1.0 to 1.9), based upon standardized test scores in reading and mathematics, with concomitant achievement of criterion referenced performance objectives for either or both subject areas.

2. A one achievement-point penalty will be assigned for each student for each subject (1 - reading; 1 - math) who does not exhibit a growth of one year (.9 or less), based upon standardized test

results, with concomitant achievement of criterion referenced performance objectives for either or both subject areas.

3. A one achievement-point bonus will be assigned for each student for each subject (1 - reading; 1 - math) who exhibits a growth of two years or more (2.0 or above), based upon standardized test results with concomitant achievement of criterion referenced performance objectives for either or both subject areas.

4. A two achievement-point penalty will be assigned for any student dropout (see Appendix C for definition of allowable dropouts).

An example will describe the point structure.

1. 300 students will be scheduled into the laboratory.

2. Assume 288 complete the program. Twenty-four penalty points will be assigned the Contractors for the 12 student dropouts.

Reading:

3. Assume 170 of the 288 remaining students achieve a growth in reading within the 1.0 to 1.9 range. No assignment of points will be made.

4. Assume 72 of the 288 students achieve a growth of 2.0 or above in reading. Seventy-two achievement bonus points will be assigned the Contractors.

5. Assume 46 of the 288 students achieve a growth of .9 or below in reading. Forty-six penalty points will be assigned the Contractors.

Math:

6. Assume 161 of the 288 remaining students achieve a growth in math within the 1.0 to 1.9 range. No assignment of points will be made.

7. Assume 63 of the 288 students achieve a growth of 2.0 or above in math. Sixty-three achievement bonus points will be assigned the Contractors.

8. Assume 64 of the 288 students achieve a growth of .9 or below in math. Sixty-four penalty points will be assigned the Contractors.

Under the assumptions, suggested only for the purpose of explanation and description of the example, the computation would be as follows:

Bonus: 72 (reading) + 63 (math) = 135 bonus achievement points

Penalty: 46 (reading) + 64 (math) = 110 penalty achievement points

Penalty: 24 (dropouts)

Contractor bonus points:	135
Minus Contractor penalty points:	110
	25
Minus Contractor penalty points:	24
	1

Contractor bonus payment: 1 x (fixed value of point) = $_____ bonus in addition to standard payment[a]

Extended Day Activities

The Contractors will train additional district staff or staff selected by LEA, at cost, for evening operation of Rapid Learning Centers. This will allow more extensive use of the facilities for samples of adults selected by LEA. The small additional costs of consumables used during these additional sessions will be borne by LEA.

Summary

The proposal as defined above and in the attached Appendices will provide the structure under which the Texarkana Dropout Prevention Program can maximize student learning in the areas of reading and mathematics. The Contractors believe so strongly in the efficacy of the proposed instructional systems that they are willing to assume responsibility for the growth in learning for all selected students. The Contractors believe that the long-range purposes of the Texarkana Dropout Prevention Program will be best served through the immediate establishment of a plan that will develop ongoing expertise of the participating districts' personnel.

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[a]For dollar amount assigned each bonus or penalty achievement refer to separate cost analysis.

APPENDIX A

Description of Curricula

The EDL Learning 100 System

Since its founding in 1954, EDL has been committed to the development of improved materials and techniques in many areas of learning. Its goal has been to make possible swifter and more thorough learning, to facilitate the development of each individual's maximum potential, and to make possible the fuller realization of the talents of teachers. Because of its basic importance to the learning process, reading became the primary focus of EDL's attention. Heir to thirty years of research and development in reading technology, EDL first concentrated its efforts on the use of instrument techniques in the development of perceptual, functional, and comprehension skills. Subsequently EDL's offerings were expanded to include new or improved methods of instruction in study skills, vocabulary development, listening and reading comprehension, and skimming and scanning.

In 1963, President Kennedy stated in his message to Congress, "A free nation can rise no higher than the standard of excellence set in its schools and colleges. Ignorance and illiteracy, unskilled workers and school dropouts, these and other failures of our educational system breed failures in our social and economic system: delinquency, unemployment, chronic dependence, a waste of human resources, a loss of productive power and purchasing power, and an increase in tax-supported benefits." Such an expression of grave concern, coupled with the ever-increasing dropout rate, produced action by several sectors of the economy. In addition to federal and state legislation designed to combat the problem, private industry also took action.

It was at this time that Educational Developmental Laboratories saw the need for and committed itself to the development of a total systems approach to the teaching of communication skills to mature individuals, whether teenaged or adult. It was not only thought that a systems design would prove to be the most economically sound approach, but also that it best furnished an opportunity for inclusion of techniques pertaining to the development and augmentation of the cognitive, affective, and conative processes. Therefore, the program was designed to provide sequential, integrated instruction in all of the communication skills. Structured material was included to develop learning readiness, and to help develop rapport between teacher and students, to arouse interest, and to encourage active participation. Concrete guidelines in the areas of decision-making, self-realization, and self-actualization were carefully integrated into the components of the program. Because the prospective students might be assumed to have had wholly frustrating or defeating experiences with the traditional methods of education, the system was designed to utilize innovative techniques to provide a dramatically new approach to learning, one through which the students could achieve success.

The resultant system, Learning 100, is a multimedia, multimodal, multilevel communication skills system specifically designed for use by the uneducated or undereducated young person or adult who is unable to function effectively in school or in the working world because he lacks basic literacy and is deficient in communication skills. This total systems approach to basic education combines audiovisual and instrument techniques with a variety of printed materials in interdependent, interlocking cycles of instruction designed to facilitate the accomplishment of specific learning in the areas of reading, writing, listening, speaking, observing, and in the thinking skills which underlie these acts.

The system is designed to help the potential or actual school dropout and the adult whose employability is threatened by lack of competency in reading and in listening. For many of the target population the motivation to remain in school or return to school has been nonexistent. For these individuals, traditional schooling has been associated with frustration and failure, and as a result, many have developed deep-seated hostilities to formal learning situations. For these persons, Learning 100 provides dramatically new techniques and approaches through which they can achieve greater proficiency in the communication skills and thus utilize greater potential for social and economic adjustment.

A multimedia laboratory approach is employed in order to initiate and maintain student interest and to provide the most efficient and effective medium for the presentation of each skill or concept. Because of the precision and control they afford, instrument techniques are used to provide instruction in perceptual and visual-functional skills, word recognition, and reading fluency. The inherent interest provided by the many audiovisual approaches employed creates a highly motivating and stimulating learning atmosphere.

Different media are used to present concepts and ideas and to provide sufficient reinforcement so that even very slow students are afforded ample opportunity to learn. Instruments, filmstrips, illustrations, and recordings, as well as a multitude of printed materials, are integrated into the program in order to provide many avenues for the development of the skills necessary for fluent reading.

Unusually heavy stress is placed on the use of audiovisual techniques since most undereducated students have relatively limited educational experience and because these techniques offer the potential for maximum enrichment in a minimum amount of time.

The initial stages of reading are far more critical for the mature student than for the child. Since this student often has little or no sight vocabulary and is lacking in word attack skills, traditional methods have often produced instant dropouts because these students rapidly become discouraged and frustrated when confronted with the endless repetition of "meaningless" words which characterize the initial stages of most methods of reading instruction. Provisions were made in Learning 100 to make these early stages highly interesting and engrossing.

Aud-X Instrument Use

The Aud-X, a new audiovisual teaching device, is used as a rapid, effective means of establishing an initial sight vocabulary and teaching basic word attack skills. This autoinstructional device appeals to the auditory and visual senses as it presents the graphic representation of a target word simultaneously with its spoken form. The printed word is thus introduced to the student, who already possesses an extensive oral-aural vocabulary, in a manner that permits inductive association.

Since aural context is used as a setting for the words to be presented graphically, words can be taught in the context of familiar language patterns, the content can be interesting and varied, and conceptually much more in keeping with the experiences and needs of the mature student. The aural communication rate is more like that experienced by the student in his speaking and listening and thus keeps him more mentally active and interested. In addition, the meaning or function of a word is more easily

comprehended by the learner when the words being taught are presented in an aural context which employs familiar language patterns. With aural context, the listener-viewer is never permitted to regress visually to prior words, nor is he allowed to form the habit of relying on rereading. Rather, he is presented with communication and ideas that are orderly and sequential.

The Aud-X introduces each word with high visual impact causing the listener-viewer to fixate squarely upon it. Consequently, the word impression is more distinct and potentially more stable. The words presented on the screen are graphically isolated in order to prevent conflicting overlapping retinal impressions. These normally occur when new words are being apprehended as part of a printed context, during which the reader will involuntarily and continuously shift fixation position while recognizing a single word and, at times, fixate inaccurately above, below, beyond, or short of the word to be learned.

There are two distinctly different methods by which new printed words are presented and instruction in basic reading skills are carried out by the Aud-X: the Story mode and the Word Study mode.

In the Story mode, each lesson is divided into two parts: presentation of four or five sight words (target words) in the context of a highly engrossing narration followed by development of comprehension skills through narrator-guided activities.

During the first part of the lesson, the narrator pronounces the target word each time it appears on the screen. Halfway through the story, the narrator ceases to pronounce the new word. Instead, only its graphic representation appears on the screen during a pause in which it would have been pronounced by the narrator. In this way, the student seizes and uses the printed word in order to complete the continuity of thought.

The second part of the lesson is devoted to the development of fundamental comprehension skills. Narrator-directed questions develop the specific skills of recall, inference, following sequence, finding main ideas, classifying, etc. The student completes exercises in a workbook and receives immediate feedback, which not only provides further instructional material, but also helps him evaluate his progress in applying the skills he has been taught.

In the Word Study mode, there are two areas of attention: the presentation of sight words and the introduction of fundamental skills of phonetic and structural analysis.

In Word Study lessons, new words are studied intensively with emphasis on graphic or sound qualities. While the majority of Aud-X exercises use context to make words more meaningful, the major emphasis is on the sound-sight relationships of words and word parts. New words are often compared with, or built from, known words through the utilization of previously learned phonic principles. Students are encouraged to attack these new words independently, when the necessary skills for unlocking the words have been previously taught. All new words are reinforced through activities in the workbook, to which the student is directed frequently in the course of each Word Study lesson. As in the Story lessons, these exercises are narrator-corrected, thus providing immediate feedback.

In addition to the Aud-X, two other instruments are used in Learning 100: the Tach-X and Controlled Reader. These instruments have been widely used by educational institutions for over fifteen years.

The Tach-X, a tachistoscopic device which utilizes specially prepared filmstrips, is used to develop high levels of visual discrimination and visual memory; skills which are essential to the act of reading.

In Tach-X Training, symbol elements, numbers, and letters are flashed on a screen in brief, timed exposures, generally ranging from one-tenth to one-hundredth of a second. Immediately after each exposure, the students name, draw, or write what they have seen.

Tach-X Instrument Use

Tach-X Training is characterized by the following:

1. Timed exposures require that the students alert themselves and focus their attention. Consequently, they develop the capability of seeing in an active and aggressive manner.

2. Training with exposure speeds which are briefer than the usual eye pause reduces the time required by the students to react to and retain accurately what they have seen.

3. Exposures at speeds of one-tenth of a second to one-hundredth of a second (the most frequently used Tach-X exposure speeds) do not permit the students to move their eyes over the exposed material as they ordinarily would. Thus overlapping impressions are avoided during this training, and the students are permitted to realize order within the exposed material.

4. In the course of the Tach-X Training, the instructor constantly emphasizes the need to recall the exposed material in its proper spatial relationship (in the case of a single element) or its left-to-right order (where several elements appear). Thus the students develop a strong sense of order and organization in all that they see.

5. Since the usual response after each tachistoscopic exposure is that of writing or drawing what was seen, the students learn to scrutinize graphic structure in a minute and careful manner.

6. In addition to developing competence in visual discrimination and visual memory, Tach-X Training is most effective in teaching numbers and letters per se.

In summary, the ultimate goal of Tach-X Training is to establish in the beginning reader the discrimination skills and visual memory which are necessary in order for him to acquire an extensive and stable sight vocabulary, and to maintain accuracy in recognition and recall when he becomes involved in fluent silent reading.

Controlled Reader Instrument Use

The Controlled Reader, a specially designed projector which utilizes specially prepared filmstrips, is used to develop good directional attack and fluency in reading. During Controlled Reading, a moving slot travels across the screen, covering and uncovering material as it goes. With no chance to look back or pause, students quickly develop better directional attack, which results in more efficient reading as well as more orderly thinking and more thorough comprehension.

Controlled Reading Fluency Training is characterized by the following:

1. As the students follow the rapidly moving slot, they develop higher levels of visual coordination and motility, skills essential to comfort and ease in silent reading.

2. In reading the story as it is unveiled in a left-to-right manner, the students continue to develop the kind of directional attack that will yeild more orderly perception in reading, and thus increased potential for better comprehension and efficiency in reading.

3. With no opportunity to regress or reread, students learn to approach reading with orderliness and organization and with growing confidence in their ability to read and understand.

4. Since Controlled Reader filmstrips are written with a strictly controlled vocabulary, students are never presented with unknown words and thus experience no sense of frustration as they read.

5. As they follow the story at rates that encourage maximum attention, students develop habits of concentration that are fundamental to maximum understanding.

6. As the students read within the moving slot, they are being accelerated, but at the same time they are prevented from "jumping ahead". Consequently, they simultaneously develop thoroughness and rapidity in reading.

7. Because the stories are presented at rates that are slightly faster than those at which the student would normally read, he is encouraged to perceive and associate more rapidly in all of his silent reading.

8. Since each Controlled Reading Story lesson involves word study, preview techniques, and a comprehension measurement, students are broadened in their approaches to reading, and in the kinds of comprehension they seek to derive from reading.

In summary, Controlled Reading is designed to provide a form of reading training that insures the reinforcement of many of the skills of reading that lead a student to fluency and efficiency in reading.

Multimodal Instruction

Multimodal instruction is used to compensate for the relatively limited education of the undereducated, underachieving student. The concept of learning style preference, its causes and implications, is presently a topic of psychological research. However, it has been empirically demonstrated that some students learn more effectively through an aural-oral approach, some from a visual approach, some through kinesthetic activity, and others through an analytic approach. The use of a multimodal approach enables the student to capitalize on preferred learning styles and to develop greater proficiency in modalities in which he is less competent.

Multilevel Organization

The multilevel organization of Learning 100 provides for individualization of instruction as each student can enter the program at his level of need and progress at his own rate. Since negative self-image is endemic in almost all underachievers, the learning environment and materials are structured so that the student is prevented from failing, thus breaking the vicious cycle. The system consists of "readiness" stages for non-readers and six graded-levels of instruction.

Non-readers enter the program at the readiness level. Ten readiness sessions are devoted to building basic auditory and visual discrimination skills; eye-hand coordination; directionality; the ability to name, recognize, and copy numbers and the letters of the alphabet; the ability to pay attention and follow directions; a positive attitude toward learning; and other skills normally associated with the "readiness" period of reading instruction. A basic sight vocabulary of ninety words is established.

Students reading at the equivalent of first-, second-, or third-grade level enter the program at these levels respectively. At these levels, the major stress is on the acquisition of visual-functional and perceptual skills, and extensive sight vocabulary, independence in word attack through phonetic and structural analysis, and basic comprehension and study skills vital to both reading and listening.

Students reading at the equivalent of fourth- through sixth-grade level enter the program at these levels respectively. At these levels, students are assumed to have developed adequate aural and visual perceptual skills and some independence in word attack. More attention is devoted to enlarging the sight vocabulary, to enriching word knowledge through awareness of multiple meanings, and to developing analytical, critical, appreciative, and selective reading skills. In addition, instruction is provided in the advanced reading comprehension skills, listening-auding skills, and study skills needed for mastery of content area information.

Autoinstructional Techniques

Autoinstructional techniques increase both involvement and learning time for each student by permitting him to respond to every question and exercise, and by furnishing immediate reinforcement. Many of the materials and techniques are self-pacing so that each student can progress at a rate which is suitable for him.

Individualized Instruction

Personalized instruction is possible because the instructor has many opportunities to work with individuals or small groups during times when the majority of students are involved in independent learning.

The adult-oriented content of Learning 100 was specifically developed to meet the needs and interests of the target population.

There are more than six hundred specially prepared reading and listening selections in three topic areas:

1. Adjustment to Everyday Living

   These selections are designed to facilitate personal, social, and occupational adjustment. The majority are personal narratives, showing how various individuals met and coped with their problems.

2. Living in Today's World

   The selections in this group were prepared to fill gaps in the student's educational background. Information in the areas of economics, arithmetic, social studies, and science helps to provide a foundation for the attainment of elementary and secondary school equivalency.

3. Enrichment Through Reading

   Here the student finds that learning can be entertaining as well as informative. He reads or hears stories of adventure, suspense, and humor. He encounters some of the great literary classics, which add to his insight into human behavior and his understanding of the basic truths of life.

Cycles of Instruction

Cycles of instruction, which constitute the organizational pattern of the Learning 100 system, introduce and reinforce learning through a carefully planned sequence of activities. A cycle consists of four parts, each of which contributes to the development of specific skills, abilities, or concepts. Within each cycle, the student first receives perceptual accuracy and visual efficiency training. Next, he participates in activities which enrich his experiential background and prepare him for subsequent instruction. The third part of the cycle consists of a skill-building sequence which introduces and reinforces vocabulary, word recognition, and comprehension skills.

Finally, all the words, skills, and concepts taught during the skill-building sequence are applied by the student during independent reading activities in the fourth part of the instructional cycle.

Part I - PERCEPTUAL ACCURACY AND VISUAL EFFICIENCY

Each cycle begins with a brisk five minutes of instrument training to develop high levels of accuracy and efficiency in the visual-functional and perceptual processes which initiate reading.

Part II - BUILDING EXPERIENCES

A teacher-guided group discussion makes possible the establishment of a common experiential background which will serve as a framework for the instructional content to follow.

Part III - SKILL BUILDING

Small groups of students move through a series of interrelated activities which assist them in the acquisition of new vocabulary, word attack skills, listening and reading comprehension capabilities and fluency in silent reading.

The skill-building portion of the cycle is subdivided into a three-step reinforcement cycle:

Introduction of New Words and Skills -

First, four or five new words are introduced with an Aud-X Story. Next, four or five additional new words and skills of phonetic and structural analysis are introduced with an Aud-X Word Study lesson. Story words are also reviewed.

During Step One, attention is focused on the visual and auditory qualities of each new word. In addition, its multiple meanings are explored. Each new word is repeated from 15 to 40 times: at first with sight-sound synchronization, then visually only, and the student is asked to write the word, in exercises, at least twice. Skills of phonetic and structural analysis are taught through comparison with previously learned phonic principles, or through stress on the word's graphic qualities.

Word Recognition Practice -

The three parts of this phase are tachistoscopic training, attention to structural changes, and Processing training.

Tachistoscopic training serves to drive down recognition time of the cycle words introduced in Step One. Under instructor guidance, students see how nouns and verbs are changed by the addition of endings. Processing training gives students practice in recognizing words quickly when they are part of running context (which includes previously learned words). During Step Two, each cycle word is repeated again from 10 to 25 additional times.

Fluency Training -

During Controlled Reading training, the student re-encounters the cycle words in story context. He will encounter them from 2 to 4 additional times in the filmed story and in comprehension questions.

Thus, during the three steps, the student sees each cycle word from 40 to 80 times, but in so many different media that he is unaware of the number of repetitions. He also sees the word with many inflectional endings and has a chance to learn its multiple meanings.

Part IV - APPLICATION AND ENRICHMENT

The cycle culminates in a variety of activities in which the student applies the skills and vocabulary mastered during the skill-building segment.

Continuous evaluation procedures are provided at frequent points during each cycle so that the instructor can quickly and easily identify those students who have mastered the skills and concepts necessary to continued progress and can detect those who need additional help before proceeding to the next segment of instruction.

Guidance for instructors is provided in the comprehension manual of procedures and detailed lesson plans which are an integral part of the system. These provide all of the background information and daily guidance needed to conduct Learning 100 classes. Explicit procedures coupled with the many autoinstructional activities make it possible for a teacher with little or no experience in reading instruction or basic adult education to administer a Learning 100 program successfully.

Comprehensive skill development is provided through instruction in a broad array of communication skills judged to be essential for successful functioning in a technological society. As a result of careful analysis of the processes and purposes of reading and listening, the twelve areas listed below were isolated for attention. In addition, provision is made for instruction in the allied communication skills of speaking and writing.

The program is unique in the specificity with which the various communication skills and subskills are developed. Because most undereducated students lack proficiency in basic perceptual and visual-functional skills, intensive instruction in these skills is provided, establishing a firm foundation for later instruction. The word recognition and comprehension skills developed at each level were selected on the basis of their importance to older students and are introduced in a developmental sequence.

1. Perceptual Accuracy - Identification, recognition, retention
2. Visual Efficiency - Binocular coordination, motility, directional attack
3. Word Knowledge - Word meanings in context
4. Word Attack Skills - Structural and phonetic analysis
5. Comprehension Fundamentals - Recalling, understanding, associating
6. Interpretation - Inferring, predicting, comparing, concluding, visualizing, sensing
7. Analytical Reading and Listening - Form, structure, detail
8. Critical Reading and Listening - Relevancy, accuracy, validity, significance
9. Appreciation - Sensitivity, interest, taste
10. Reference Skills - Location of information, use of materials
11. Selective Reading - Skimming and scanning
12. Reading and Study Habits - Approaches, attitudes, interests, goals

INSTRUCTION AT THE RA (READINESS) LEVEL

The Readiness program was designed for the student who has acquired few, if any, of the skills of literacy.

He generally lacks skill in noticing small likenesses and differences and in remembering visual forms. He therefore needs intensive training to develop visual discrimination and visual memory.

Although he lives in a world filled with sound, he rarely listens with comprehension and has, in essence, "tuned himself out". He thus needs to learn how to listen attentively and to remember what he hears.

Illiterate students generally have poor eye-hand coordination; many even have trouble holding and guiding a pencil. They need specific instruction in forming letters and numerals as well as in recognizing and naming the numerals and letters.

Left-to-right directionality is not an innate skill, but one which must be developed. The non-reader needs specific training in order to develop the left-to-right directional attack which is necessary for fluent, efficient reading.

It is vital that the student have the experience of reading meaningful material during the beginning days of class. Thus, the establishment of a sight vocabulary is begun during the very first cycle of instruction, and the student soon finds that he can read simple stories with understanding and enjoyment.

INSTRUCTION AT LEVELS AA-CA (GRADE EQUIVALENTS 1 THROUGH 3)

The techniques and training procedures of Levels AA-CA build on the basic skills introduced and taught at the Readiness level.

Continued attention is devoted to the expansion of sight vocabulary. Beginning on the AA level and continuing through the CA level, particular emphasis is given to developing independence in word attack through phonetic and structural analysis. Upon completion of Level CA the student will have been sequentially introduced to an array of phonic and structural analysis skills which will enable him to independently unlock most of the words he will encounter in day-to-day reading.

Since context plays a role of prime importance in any activity involving the use of words, students receive intensive instruction in how to use context clues in unlocking the meaning of words and in understanding both oral and written material.

On Levels AA through CA, students are given instruction and practice in progressively more complex comprehension skills. The important skills of understanding main ideas and making inferences are introduced early in the AA level and reinforced in subsequent instruction.

Other interpretive skills such as visualizing, predicting outcomes, and determining cause and effect are developed sequentially throughout these levels.

It is also important that students become fluent and efficient readers. Beginning at the AA level and continuing through the CA level, several instrument techniques are used to develop skill in processing ideas and to build fluency in silent reading.

During these levels students also receive developmental instruction in those writing and speaking fundamentals which are practical and applicable to everyday living and working situations.

INSTRUCTION AT LEVELS DA-FA (GRADE EQUIVALENTS 4 THROUGH 6)

Students who enter Learning 100 at Level DA or above have as goals either entering the world of employment or completing elementary equivalency and continuing their education. Therefore, the program is broadened to include a wider variety of communication skills instruction that is directly related to the immediate needs of these individuals.

The instructional program at Levels DA-FA is organized into four parts, which require the same time intervals as the program at Levels RA-CA.

At these levels, continued emphasis, dictated by student needs, is placed on developing high levels of accuracy and efficiency in the visual-functional and perceptual processes. There is also continued emphasis given to the development of common experiential background and to the improvement of oral language facility.

On the fourth, fifth, and sixth reading levels of Learning 100, a combined recording and workbook approach is used to introduce and give practice in a variety of listening, reading, and writing skills.

At these levels, the Study Skills Library is used to help students develop the reading skills and approaches they need in order to read effectively in the content areas. Lessons programmed for independent learning provide step-by-step instruction in the areas of interpretation, evaluation, organization, and reference.

During each cycle at these levels, students participate in teacher-guided activities designed to refine their ability to use context and to improve their spelling ability. Independent activities are provided which stress dictionary usage.

As on the lower levels, continued stress is placed on developing fluent, efficient reading and improving the comprehension skills.

LEARNING LABORATORY

In essence, Learning 100 converts the classroom into a learning laboratory in which each student is encouraged to assume responsibility for his own daily activities and the progress he will make. The program is arranged so that the student is exposed to a variety of independent, small-group, and teacher-directed activities. Students move from one learning activity to another, completing prescribed cycles of instruction in an orderly, sequential manner.

MATHEMATICS

Sullivan Associates' Programmed Math

The EDL Lab was conceived as an environment in which the adaptive merits of the students would be utilized to the fullest: one in which advantage would be taken of the wide-ranging practical knowledge and life experience possessed by these students.

It was felt that the use of a programmed approach to the teaching of the computational skills would satisfy these students' cognitive needs, which seem to require extensive use of concrete examples in learning. Since many of the target population have difficulty in succeeding when the learning activities are of a contemplative rather than active nature, it was felt that a programmed approach, demanding constant involvement would also provide an avenue in which immediate success could be attained, simultaneously satisfying another rather basic need: that of immediate gratification.

It was also felt that a structured, tightly programmed approach would rapidly enable the student to operate within the confines of a known situation, thus eliminating the unexpected and the unsettling prospect of inappropriate behavior. It is also widely accepted that a programmed approach provides a maximum of positive reinforcement and conversely, a minimum of negative reinforcement. The self-instructional aspects of the program also significantly reduce the probability of error and subsequent disorientation and discouragement on the part of the student. In keeping with this philosophy, the Sullivan Associates' Programmed Math series was selected as the basic vehicle for developing the computational skills.

The program provides sequential instruction in the basic operations of addition, subtraction, multiplication, and division, and application of the concepts and operations through accompanying word problems. Objectives were established in each area and a series of steps constructed to lead the student to perform the objective. These steps were broken down into frames and arranged in a logical sequence progressing from the simple to the complex. The programmed units were then arranged in book form according to the principles of linear programming. The teaching technique employs an explanation of each topic, using completed examples when appropriate, a gradual reduction in the number of cues from frame to frame, until all cues are removed and the student is required to work an example without aid. Each frame is slightly more difficult than the preceding and incorporates concepts and principles previously introduced, leading the student from the simple to the complex; from the known to the unknown.

Features of Sullivan Associates' Programmed Math

The multilevel structure of the program enables each student to begin at his level of need, regardless of grade- or age-level differentiation and to progress at his own rate.

Self-pacing is made possible through the use of individual programmed workbooks which allow students to work entirely on their own. The programmed format provides maximum opportunity for satisfaction of individual learning time tables. Each frame is self correcting, enabling students to receive immediate correction and reinforcement.

Criterion frames appearing at the end of every six-page lesson unit serve as a self-administered review test. Periodically criterion frames are provided which are teacher corrected for evaluation purposes.

Progress tests are provided for each programmed workbook, in addition to the unit tests appearing in each programmed workbook. There are six progress tests for each workbook.

A diagnostic placement examination, an achievement examination, and a final examination in word problems are included in the program. The placement examination provides the instructor with a means of placing students at the correct level within the program. The achievement and word problem tests are designed to be used after completion of prescribed units of instruction and provide a measure of student progress. Since they are diagnostic in nature, they also reveal individual weaknesses and can serve as a guide for corrective or remedial instruction.

The following summary delineates the continuum of skills presented in the five programmed workbooks and reinforced and extended in the accompanying problem workbooks.

Book 1 - Basic Addition

Units 1 - 5: formation of the numerals 1 through 9; concept of number; numbers as abstractions for concrete objects; counting; adding as a means of counting; horizontal adding of two numbers with sums no greater than 9; review

Units 6 - 10: review of number-set associations; horizontal adding of three, four, and five numbers with sums no greater than 9

Units 11 - 13: vertical adding of combinations of two to nine numbers with sums no greater than 9; formation of the numeral 0; association of 0 with the empty set; adding combinations of two to nine numbers plus 0 with sums no greater than 9

Units 14 - 16: 0 as a place-holder; the numeral 10; concept of place notation through association of numbers with columns of "dimes" and "cents"; simultaneous vertical addition of cents to cents and dimes to dimes; transition from "dimes and cents" to "tens and ones"; adding combinations of two and three two-digit numbers with sums no greater than 99 where no regrouping is involved; review

Achievement level - At the end of Book 1 the student is able to add any combination of numbers up to 99 where no regrouping is involved.

Book 2 - Advanced Addition

Units 1 - 4: review of the material covered in Book 1; place notations for numbers through hundred thousands; adding numbers of up to six digits with sums no greater than 999,999 where no regrouping is involved

Unit 5: place notation for numbers in the millions; adding numbers in combinations of ones through millions where no regrouping is involved; employing one-to-one correspondence with sets of objects and the concept of regrouping to work out the facts of addition for numbers in the teens

Units 6 - 7: extending the work in regrouping by association of numbers with "dimes" and "cents"; transition from "dimes and cents" to "tens and ones"; vertical adding of numbers with sums no greater than 19; regrouping in numbers up to 99; carrying the ones to the tens column; vertical addition of five or more two-digit

numbers and of combinations of one- and two-digit numbers

Units 8 - 12: carrying 1 in each place in adding combinations of numbers through the ten thousands; carrying 1 in one to four places in adding combinations of numbers through ten thousands

Units 13 - 16: carrying 1 in one to six places in adding combinations of numbers through the millions; carrying up to 9 in one to five places in adding combinations of numbers through the hundred thousands; review

Achievement level - At the end of Book 2 the student has mastered the concept of regrouping. He is prepared to solve any problem requiring the addition of whole numbers.

Book 3 - Subtraction

Units 1 - 2: subtraction as the removal of objects from a set; subtraction as the opposite of addition; horizontal subtraction with minuends no greater than 6; vertical subtraction with minuends no greater than 9; exercise with 0; 0 as a place-holder in subtraction

Units 3 - 9: checking subtraction by adding; subtraction from numbers of up to seven digits where no borrowing is involved

Units 10 - 11: regrouping in subtraction introduced as borrowing; subtraction from numbers of up to three digits where it is necessary to borrow twice; subtraction from numbers of up to four digits where it is necessary to borrow once

Units 12 - 15: subtraction from numbers of up to seven digits where borrowing from one to six times is required; review

Unit 16: special problems involving two or more consecutive 0's in the minuend; review

Achievement level - When he has finished Book 3, the student is prepared to solve any problem requiring the subtraction of whole numbers.

Book 4 - Multiplication

Units 1 - 6: multiplication as repeated addition; multiplication tables through 9; 0 as a place-holder in multiplication; multiplying two-digit numbers by one-digit numbers and checking by repeated addition; multiplication of numbers through the hundred thousands by one-digit numbers where no carrying is involved; multiplication of numbers through the hundred thousands by one-digit numbers where the product has one digit more than the multiplicand

Units 7 - 11: carrying in the multiplication of two-digit numbers by one-digit numbers; multiplying by one-digit numbers multiplicands of up to five digits where carrying is required first only once, then from one to three times.

Units 12 - 16: multiplication of six-digit numbers by one-digit numbers where carrying is required from one to three times; multiplying two-digit numbers by two-digit numbers where no carrying is required in the addition of partial products; carrying in addition of partial products in problems involving multiplicands of up to four digits and multipliers of up to three digits; review

Achievement level - When he has finished Book 4, the student is prepared to solve any problem requiring the multiplication of whole numbers.

Book 5 - Division

Units 1 - 8: division as the operation which shows how many times one number is contained in another; division as the opposite of multiplication; short division of numbers through five digits without remainders; short division of numbers whose first digits are similar to the divisors; checking division by multiplying; the remainder; short division with remainders where no carrying is involved; short division involving carrying

Units 9 - 16: long division where no borrowing is required in subtraction; long division involving borrowing in subtraction; long division with remainders; review

Achievement level - when he has finished Book 5, the student is prepared to solve any problem requiring the division of whole numbers

EDL Mathematics Series

As the basic concepts and skills are presented to the students, instrument training will be used to refine and quicken the responses of the students and to provide motivation and variety in approach. It is recognized that there are many weaknesses in speed and many strengths in slowness.[1]

However, since the predominant culture places a premium on speed, as well as accuracy, in mathematical computations, specific attention will be given to developing adequacy in these areas. The EDL Arithmetic Skills Program will be used. This program may be termed an "arithmetic fluency" program, for it is devoted to the development of heightened perceptual accuracy, more rapid assimilation and accurate retention of arithmetic information, and automatic responses to numbers and number facts.

The instruments and materials that constitute this program are used by the teacher to present challenging timed exercises that keep attention and interest at a peak. As a result, students learn to concentrate, to think and react rapidly, and thus acquire more complete mastery of the basic facts and processes involved in computation and problem solving.

The EDL Controlled Reader will be used to present arithmetic number or story problems at controllable rates in either a left-to-right fashion or line-by-line. The teacher may stop and start projection after each problem has been shown, or she may present problems continuously at automatic rates of from 15 to 130 lines per minute.

The special masking device on the instruments (used only with line-by-line projection) allow the presentation of segments of a line, making it possible to eliminate answers when checking student progress and to vary the type and difficulty of exercises.

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[1] Riessman, Frank, "Helping the Disadvantaged Pupil to Learn More Easily," Successful School Management Series, Englewood Cliffs, N.J., Prentice-Hall, Inc. 1966, p. 11.

When the arithmetic problems are presented in story form, the left-to-right control is used to encourage more sequential and orderly intake of problem information.

The EDL Arithmetic Skills Program focuses on the following major areas:

Arithmetic Number Facts

Controlled Reader training with number combinations helps students to master completely the basic facts of addition, subtraction, multiplication, and division. When number problems are presented at timed rates, drill is transformed from drudgery into fun, and the amount of drill time necessary to build instantaneous responses is greatly reduced.

The Arithmetic Number Facts set provides practice with the basic facts of addition, subtraction, multiplication, and division, in addition to exercises in counting, numbers-in-series, facts in mixed order of presentation, and two-step problems. With the exception of the filmstrips on counting and series, each filmstrip contains exercises calling for both oral and written responses. Oral-response exercises, which are used for rapid, continuous oral drill, are followed by written-response exercises, which are used to measure individual student skill. Each written-response exercise duplicates in different sequence the preceding oral-response exercise.

Mental Arithmetic

Controlled Reader training with mental arithmetic drills helps students develop more accurate number memory and quicker reactions in computation and problem solving. When problems are presented at timed rates, the amount of drill time necessary to build instantaneous responses to number relationships is greatly reduced.

The Mental Arithmetic set contains hundreds of arithmetic activities and games. Included are exercises with domino-like groupings and random dots, lines, number-in-series, number recognition, vertical addition, subtraction, multiplication, division, fractions, decimals, per cent, equations, as well as games requiring intensive concentration and story problems stressing retention.

Arithmetic Story Problems

Controlled Reader training with story problems heightens students' ability to quickly determine the process needed, to estimate the probable answer, and to solve problems competently. It also provides reinforcement in the ability to read problems more effectively, to gather and retain facts and information, and to comprehend and interpret correctly in arithmetic situations. Thus, the objective of story problem training is to provide simultaneously reinforcement of problem solving ability and instruction in how to read arithmetic information.

Students are given practice in solving problems mentally and with paper and pencil. With problems calling for MENTAL COMPUTATION, students mentally arrive at the answer and then record it. In problems requiring WRITTEN COMPUTATION, the question is given first so that the student can determine the process required and the facts to record. Problems can be solved immediately or after a complete exercise has been projected. To encourage careful, accurate reading of each story problem, a number of "reverse" problems have been included. Reverse problems are those that are foreign to the objective of the filmstrip.

The arithmetic story problems are organized in sets according to grade levels. The story problems are typical of those presented in standard arithmetic tests. The problems were written with due attention to the vocabulary and readability factors that influence reading difficulty. Thus, the 150 filmstrips contained in these sets present a continuum of exercises which allows the teacher to select filmstrips at each student's level of achievement.

Electronic Futures, Inc.: SELF-INSTRUCTIONAL BASIC MATHEMATICS

Self-Instructional Basic Mathematics is an individualized system designed to teach fundamental concepts, operations, and skills in mathematics as well as to extend the learner's understanding and appreciation of mathematical ideas beyond the fundamentals through enrichment activities. The program incorporates ideas from the structure and methods of inquiry inherent in the discipline of mathematics and is based upon recent research findings in the theory of learning.

Self-Instructional Basic Mathematics consists of both a "Fundamental Mathematics Skills Program," concerned with the introduction and development of commonly used concepts, operations, and skills, and an "Enrichment Mathematics Skills Program, " which focuses on less commonly taught -- though highly interesting and useful -- concepts, operations, and skills.

All elements of the program are designed for use with the EFI Audio Flashcard Reader. The system provides a self-instructional format through which individual students can master both concrete and abstract ideas in mathematics by means of the flashcards and related Student Workbook.

Self-Instructional Basic Mathematics consists of five program levels, each of which is comprised of Audio Flashcards, Student Workbooks, and an accompanying Teacher's Manual.

Level One focuses on concepts, skills, and operations commonly taught in primary grades; it provides instruction in number concepts, sets, addition, subtraction, multiplication, and division of whole numbers 0-10.

Level Two, designed for intermediate grades, includes advanced instruction in number concepts, addition, subtraction, multiplication, and division of whole numbers 10-999,999.

Level Three, designed for intermediate grades, focuses on common fractions and includes fractional concepts, renaming, and the four fundamental processes of addition, subtraction, multiplication, and division.

Level Four, designed for use with upper grades, stresses decimal fractions and includes decimal concepts and the four fundamental processes as they are applied to decimal fractions.

Level Five, designed for all grades, includes instruction in the following: Time, Equalities and Inequalities, Geometric Figures, Linear Measurement, Equations, Lines, Line Segments, Rays and Angles, Triangles, Rectangles, and Squares, Perimeter, Area, Circles, and Ratio and Proportion.

The total system, then which covers over twenty major mathematical topics

found in the elementary school curriculum, contains 7 sets of Audio Flashcards accompanied by Student Workbooks and Teachers' Manuals.

Self-Instructional Basic Mathematics makes use of the EFI Audio Flashcard Reader as a self-instructional tool. Each Audio Flashcard in the program has an audio tape bonded to the back of the card. When the card is inserted into the Audio Flashcard Reader, the student presses a button and the card "speaks" the audio message which has been recorded on the tape.

The Audio Flashcards perform several very useful functions:

1. New concepts and skills are introduced through a combined audio-visual presentation.

2. Questions or problems are posed through both the audio and visual media.

3. In some cases, tactile responses are suggested. In other cases, verbal student responses are required.

4. Reinforcement cards for drill or review are provided.

5. Cards which ask a question of the student may be pulled out of a set and be used for evaluative purposes by the teacher.

Certain cards within the set direct the student to turn to a specified page and exercise in the workbook for further review, practice, or extension.

Self-Instructional Basic Mathematics presupposes little or no reading ability on the part of students -- either children or adults. Successful completion of the program is not dependent upon such ability.

The combined audio-visual-kinesthetic approach of the Audio Flashcards enables the student to work independently of the teacher through considerable portions of the program. The Answer Key included in each workbook enables the student to evaluate his progress as he proceeds. For more comprehensive evaluation by the teacher, achievement tests are included in the Teacher's Manual.

Summary

The mathematics components, rapid drill on the Math Builder instrument to build speed and accuracy, programmed instruction to build conceptual development, and self-instruction multi-sensory skill development for intensive reinforcement, will be prescribed for individual students as their need dictates. The interdependency of the materials and the availability of the related techniques provide a structured skill development system for learning.

APPENDIX B

Schedule for Teacher Training

TEACHER TRAINING

Teacher Training for the communication skills component (Learning 100 system) and the math component (Sullivan Programmed Math and EDL Math Builder) use will be conducted by EDL personnel.

The initial training period will consist of five consecutive days. Facilities for training will be provided by the Texarkana Executive Committee. Training will include the Project Manager, all Curriculum Managers and Assistants, and Resource Consultants. The following training schedule will be adhered to during the five day initial training period. Twenty hours of ongoing in-service training sessions or visitations will be conducted by EDL or authorized representatives. The Resource Consultants will act as consultants to Curriculum Managers as required and will assume responsibility for assisting EDL Teacher Training personnel during ongoing in-service training sessions.

EDL Lab Workshop Schedule

First Day

8:30 Introduction to Workshop

8:45 I. Introduction to the communication skills component
- A. The need for a new approach to communication skills instruction
- B. Considerations in planning laboratory activities

9:00 II. Key features of the communication skills components
- A. Comprehensive skill development
- B. Adult-oriented content
- C. Multilevel organization
- D. Systems approach
- E. Multimedia laboratory appraoch
- F. Multimodal instruction
- G. Autoinstructional techniques
- H. Cycles of instruction
- I. Continuous evaluation
- J. Guidance for instructors

III. Goals of instruction at the lower levels
- A. Readiness program stresses skills needed by non-readers
- B. Basic program builds on skills of readiness program

9:45 Overview: Nature of Programmed Instruction Related to the Teaching of Mathematics

10:30 IV. Instructional procedures at lower levels
A. Demonstrate all activities of a lower level cycle

12:30 Lunch

1:30 B. Introduction to instrument operation - eye movement recording filmstrip

2:00 Practice in instrument operation* - first rotation
Group 1: Aud-X
Group 2: Tach-X
Group 3: Controlled Reader

2:15 Practice in instrument operation - second rotation
Group 1: Tach-X
Group 2: Controlled Reader
Group 3: Aud-X

2:30 Practice in instrument operation - third rotation
Group 1: Controlled Reader
Group 2: Aud-X
Group 3: Tach-X

2:45 Refreshment Break

3:00 V. Part I of instructional cycle at lower levels - Perceptual Accuracy and Visual Efficiency
A. Tach-X Accuracy Training
B. Motility Training
C. Accelerated Discrimination Training

4:30 Study Assignment: Participants are to read or review "Overview" and "Getting Started" sections of Manual dealing with Part I in preparation for role-playing session on second day.

Second Day

8:30 Role-Playing Session: Part I - Perceptual Accuracy and Visual Efficiency
Group 1: Tach-X Accuracy
Group 2: Motility Training/Accelerated Discrimination
(One participant in each group plays the role of instructor; the others act as students. Roles should be rotated so that each participant has an opportunity to act as instructor.)

*This schedule shows groups rotating every fifteen minutes in order that each individual will have an opportunity to manipulate each instrument. If the groups are large, it may be preferable to allow each group to stay with one instrument for the entire 45 minutes.

9:15 VI. Part II of instructional cycle at lower levels - Building Experiences

9:45 Orientation to Sullivan Programmed Math

10:30 Small-Group Discussion: Part II - Building Experiences
Group 1
Group 2
Group 3
(Each group is to prepare a report of problems and recommended solutions to be presented to all workshop participants during the subsequent session.)

11:00 Group Reports: Part II - Building Experiences Problems and Solutions

11:30 VII. Part III of instructional cycle at lower levels - Skill Building
A. Introduction to Skill-Building Sequence

12:15 Lunch

1:15 B. Aud-X Story mode

2:00 C. Aud-X Word Study mode

3:15 Refreshment Break

3:30 Instrument Operation: Rotation of groups each 15 minutes as shown on preceding afternoon

4:15 Study Assignment: Participants are to read "Overview" and "Getting Started" sections of Manual for Aud-X Story and Word Study.

Third Day

8:30 Question and Answer Period: Aud-X Story and Word Study

8:45 D. Tach-X Word Recognition Training

9:30 E. Controlled Reader Processing Training

10:00 F. Controlled Reading Fluency Training

10:30 Question and Answer Period: Tach-X Word Recognition, Processing, and Controlled Reading

11:30 Programmed Math: Materials, Teacher's Role, Management of Pupil Time

12:15 Lunch

1:15 Role-Playing Session: Part III - Skill Building
First Rotation
Group 1: Aud-X
Group 2: Tach-X and Processing
Group 3: Controlled Reading Fluency
(During the Tach-X and Processing segment, one participant in each group should take the role of instructor.)

1:45 Second Rotation
Group 1: Tach-X and Processing
Group 2: Controlled Reading Fluency
Group 3: Aud-X

2:15 Third Rotation
Group 1: Controlled Reading Fluency
Group 2: Aud-X
Group 3: Tach-X and Processing

2:45 Refreshment Break

3:00 Question and Answer Period: Classroom Management During the Skill Building Sequence

3:30 Instrument Maintenance Session - First Rotation
Group 1: Aud-X
Group 2: Tach-X and Controlled Reader
Group 3: Changing Processing Motor
(Each participant is to learn to maintain each instrument and change the processing motor.)

3:45 Second Rotation
Group 1: Tach-X and Controlled Reader
Group 2: Changing Processing Motor
Group 3: Aud-X

4:00 Third Rotation
Group 1: Changing Processing Motor
Group 2: Aud-X
Group 3: Tach-X and Controlled Reader

4:15 Study Assignment: Participants are to read "Overview" and "Getting Started" sections of Manual for Tach-X Word Recognition, Processing, and Controlled Reading Fluency Training.

Fourth Day

8:30 Part IV - Application and Enrichment
A. GO

9:00 B. Additional Activities

10:00 Discussion of Differences in Lower Levels

10:30 Math Builder: Integration into Total Program

11:15 Instrument Maintenance: Rotation of groups each 15 minutes as shown on preceding afternoon

12:00 Lunch

1:00 IX. Instruction at higher levels
- A. Student population
- B. Needs of students
- C. Introduction to instructional cycle

1:30 X. Part III of instructional cycle at higher levels - Skill Building
- A. Listen, Listen and Read, Listen and Write

3:00 Refreshment Break

3:15 B. Study Skills Library

4:00 Study Assignment: Participants are to read "Overview" and "Getting Started" sections of Manual dealing with Listen, Listen and Read, Listen and Write, Study Skills Library.

Fifth Day

8:30 Question and Answer Period: Listen, Listen and Read, Listen and Write, and Study Skills Library.

8:45 C. Word Recognition and Spelling

9:15 D. Controlled Reader Fluency

9:30 Programmed Math: Student Placement and Structure of Progress

10:15 Role-Playing Session: Part III - Skill Building (Higher Levels)
- Group 1: Listen, Listen and Read, Listen and Write
- Group 2: Study Skills Library
- Group 3: Word Recognition and Spelling

10:45 Group Rotation
- Group 1: Word Recognition and Spelling
- Group 2: Listen, Listen and Read, Listen and Write
- Group 3: Study Skills Library

11:15 Group Rotation
- Group 1: Study Skills Library
- Group 2: Word Recognition and Spelling
- Group 3: Listen, Listen and Read, Listen and Write

11:45 XI. Part IV - Application and Enrichment (Higher Levels)
- A. Application and Enrichment activities common to all levels
- B. Comprehension Power Development
- C. Aud-X Word Attack Review

12:15 Lunch

1:15 XII. Classroom Management
- A. Scheduling considerations
- B. Class size
- C. Grouping
- D. The classroom
- E. Daily schedules
- F. Recommended placement procedure
- G. Record keeping
- H. Evaluation
- I. Secondary school implementation

3:15 Refreshment Break

3:30 Workshop Summation and Evaluation

4:30 Workshop Adjournment

APPENDIX C

Description of Target Population

and

--Definitions of Allowable Dropouts

TARGET POPULATION

Phase II (1970-71)

During the second year of the project, Phase II, 300 students from grades seven through twelve will be selected to participate in the Dropout Prevention Program. Tentative selection of specific students will be the responsibility of the LEA or its representatives. However, final student approval will result from joint collaboration between the Contractors and the LEA. During the first two weeks of laboratory activities, student rescheduling will be anticipated. Therefore, the sample of students considered to be enrolled in the project will be those on roll the first day of the third week of operation.

Certain students, however, may be selected as participants who are not qualified. The Contractors or the authorized representatives of the Contractors will have the right to question the selection of any student whom they believe to be inappropriately selected under the following list of reasons for exclusion from the project:

1. Mental Retardation

   No student will be considered appropriately placed in the program who has an IQ of 75 or below. Individual intelligence tests (WAIS or Stanford-Binet) will be administered by the school psychologist or counseling staff to students whom the Curriculum Manager believes to be below this level of competence.

2. Physically Handicapped

   The proposed learning laboratories have been designed for use with individualized, largely self-instructional programs which can incorporate upon whatever independence of action and direction a young adult may have attained prior to entrance into the system and subsequently build upon this independence and self-direction. It is imperative, therefore, that students using the system must be of a general physical condition which will allow independent activity. Serious hearing or visual impediment or severe loss of motility would be reasons for exclusion of a student. It must be noted, however, that many physically handicapped individuals are able to cope successfully with their handicaps. Therefore, each case must be examined separately and judged according to its merits.

3. Emotional Maladjustment

   Students who indicate severe emotional maladjustment will be referred to the school psychologist or counseling service. If it is determined that the emotional problems are such that the student may be consistently disruptive to the extent that he will interfere with the rights of other students or that he may endanger the safety of others or cause harm to himself or others he will be excluded.

4. Persistent Disruption

It must be assumed that many students from the defined population will begin work in the program with established patterns of poor school and social behavior. It has been the experience of EDL, however, that students are highly motivated by the use of the proposed systems and that behavior patterns will imporve appreciably with time. If a student is consistently and persistently disruptive to the extent that normal laboratory activities cannot continue or if the student is destructive to equipment and materials, the Curriculum Manager will be allowed to ask for a review of the case and possible dismissal of the student from the program.

The four causes for dismissal from the program listed above will not be debited against the Contractors. In all probability, these causes will be detected within weeks after program installation. Alternate students can be drawn from the alternate pool of students who have taken the pretest if the substitution is made prior to November 1, 1970. Achievement gains will be computed for these alternate students on a basis of the time they participate in laboratory activities. The potential achievement bonus for these alternate students will be equal to that for originally selected students.

Proposal Definition of Allowable Dropouts

If a student withdraws or is withdrawn from laboratory activities for the reasons listed and defined below, no debit against the Contractors will be assumed.

1. Suspension from School

If a student is suspended from activities in the public school installation which he attends, his continuance in LEA project activities will be at the discretion of the Curriculum Manager. If the Manager believes that the student will continue to benefit from project activities he will have the right to retain the student in the project.

2. Marriage

If a student is married or becomes married during attendance in the project he may or may not be able to successfully continue the program. The Curriculum Manager will have the option of asking the student to leave without debit against the Contractors if it appears that home or marital responsibilities are interfering with the student's academic performance.

3. Extended Illness

If extended illness prevents a student from attending laboratory sessions the Curriculum Manager, at his discretion, may ask that the student be dropped from the project without debit against the Contractors. Under this category are pregnancy, contagious disease, alcoholism and drug addiction.

If funding to the district is cancelled prior to completion of Phase II, any student enrolled at the time of project cancellation will be considered to be a student in good standing and payment for achievement guarantee and bonus will be computed on the basis of that part of the instructional year completed under the project funding.

Excessive Absence

If a student is absent from laboratory activities fifty per cent of the time or more his case will be reviewed by the Curriculum Manager and teachers to determine cause. This review will be the basis for eventual decision as to responsibility for the student's disposition.

Summary

With the exception of the types of cases defined above, the Contractors agree to be held accountable for all students on roll the first day of the third week of project operation.

SEPTEMBER 1, 1970

ADDENDUM TO PROPOSAL SUBMITTED TO LOCAL EDUCATION AGENCY
IN RESPONSE TO RFP FOR TEXARKANA DROPOUT PREVENTION PROGRAM
BY EDL/McGRAW-HILL AND ARKANSAS SCHOOL SERVICES, INC.
FOR READING AND MATHEMATICS COMPONENTS

Contractor Proposal, Part 1, page 4, Instructional Staff

The staff levels are adjusted following consultation with the LEA staff to include the following:

Base contract (secondary):	5 teachers (1 per installation to teacher reading and math)
	5 paraprofessionals (to assist teacher in 5 labs)
Addendum contract (elem.):	2 teachers
	1 paraprofessional
Total staff:	7 teachers
	6 paraprofessionals

Note: The staff level adjustment includes an elimination of the Student Tutor and a Clerk for which a cost adjustment was made. It is anticipated, however, that volunteer student tutors will be used within the programs when available and when appropriate.

Part 1, page 6, Performance Guarantee

The performance guarantee specified within this proposal refers to the 150 days of instruction specified within the RFP. If, in fact, fewer

than 150 days of instruction are scheduled during the period of the project for whatever reason (other than fault of the contractor), the performance guarantee will be prorated. That is, the guaranteed performance levels will be reduced proportionate to the number of days of instruction. (Example: 120 days of instruction. Guaranteed performance level would be 120/150, or 4/5, of the original level.)

Bonus Recognition Payment. If a bonus payment is due the Contractors following analysis of performance data, the Contractors agree to return all, less an amount of one dollar, to the LEA. The Contractor's interest in identifying a bonus factor is for the purpose of recognition that a better-than-acceptable level had been attained.

Part 1 - page 6 under Performance Guarantee (after first paragraph)

Add: The contractors agree to accept pre- and post-test scores administered by the educational auditor as the basis for establishment of results pertaining to that portion of the performance guarantee, to be judged on the basis of a standardized text.

Part 1, page 6: Dropouts

Add: The contractors agree to comply by the definition of a "dropout" as specified in VI-A.1. of the RFP in total, consequently withdrawing the contractors' definition stipulated in their proposal (Appendix C, page 2, Definition of Allowable Dropouts.)

The contractors at the same time agree to maintain responsibility for all allowable dropouts (as defined in RFP, VI-A.1.) following the initial two weeks of operation.

Appendix B: Schedule for Teacher Training / Ongoing Supervision

Teacher training will be conducted by Mr. Charles Friend, EDL/McGraw-Hill Director of Education, in conjunction with the Project Director, Dealership Consultants, and Dr. Charles Hennigan, EDL/McGraw-Hill Regional Manager. Initial training will be for a period of 5 days. It is recommended that, in addition to the 7 teachers and 6 para-professionals, that the 10 LEA Turnkey staff and appropriate supervisors and administrators from the LEA staff be included.

The Project Director, an experienced Learning-100 teacher and teacher-educator, will be on a full-time basis on site for continual management of the project to maintain maximum efficiency.

The EDL Director of Education and/or the EDL Teacher-Education Coordinator will visit the project site to evaluate progress on a six-week schedule to assure continuing successful operation of the learning centers.

Dr. Charles Hennigan, EDL/McGraw-Hill Regional Manager and Dealership consultants will be available for continuous and immediate assistance

ADDENDUM

SEPTEMBER 1, 1970
Page 4

as required and as requested by the projector director.

In addition, the total resources of the EDL/McGraw-Hill organization and that of its parent McGraw-Hill Book Company will be made available to assure success of the program for all concerned.

ADDENDUM TO COST PROPOSAL

Firm: EDL/McGRAW-HILL and ARKANSAS SCHOOL SERVICES, INC. Date: September 1, 1970

I. Total Costs

The total maximum cost for the complete contract (secondary and elementary) will be $147,871.20 based on 890* student/subjects at an average maximum cost of $ 166.15 per student/subject. The base contract (secondary) maximum costs are $115,747.96. The addendum (elementary) contract cost are $ 32,123.24. Should the number of student/subjects exceed the above named units, additional units would be pro-rated at this figure.

* 650 student units in Bonus Contract Secondary and 240 student units in Addendum Contract Elementary

II. Payment for Drop-Outs

a. Formula for computation:

Total Cost = Lease Cost for equipment + cost of software components + fixed charge to LEA

b. Bonus:

Secondary: $\frac{\text{Lease cost-equipment + cost-software}}{\text{600 student units}} = \$44.62^{**}$

Elementary: $\frac{\text{Lease cost-equipment + cost-software}}{\text{240 student units}} = \$38.64^{**}$

c. Penalty:

Same as in Bonus section (b.)***

** Bonus is allowed for each student in each subject area who has achieved 2.0 grade level improvement from pre- to post-test.

*** Penalty is accepted for each student in each subject area who has achieved .9 or below grade level improvement from pre- to post-test. Same penalty amount applies to each "dropout" as defined.

ANALYSIS OF COST

Fixed Charge to LEA

Director ($15,000 + $2,250.00 fringe benefits)	$ 17,250.00	
Clerical ($5,200.00 + $520.00 fringe benefits)	5,720.00	
Student Tutors (20 @ $5.40/week for 30 weeks)	3,240.00	
Installation and Refurbishing (priced at cost to this level)	6,000.00	
Teacher Training	4,640.00	
Consultant Services	6,000.00	
Proposal Preparation and Evaluation	2,000.00	
Travel Expenses	3,122.00	
TOTAL FIXED CHARGES:	$ 47,972.00	$ 47,972.00

Product Charges

Contractor Owned Product		
EDL Consumables	$ 6,578.50	
Webster Consumables	+ 2,322.00	
	$ 8,900.50	$ 8,900.50
Contractor Owned Product Under Lease[a]		
EDL Non-consumables 1/3($44,181.00)	$ 14,727.00	
Webster Non-consumables 1/3($132.40)	44.13	
EFI Non-consumables 1/3($9,310.00)	+ 3,103.33	
	$ 17,874.46	+ 17,874.46
TOTAL PRODUCT CHARGES:		$ 26,774.96

[a]These prices are based on a straight lease plan. The Contractors are willing to negotiate a "lease-to-purchase" plan if desired by LEA.

Basis For Achievement Point Values

The total cost of Contractors' Product Charges, $26,744.96, will be the basis of the guarantee performance and will be related to the achievement point structure described on the basis of $44.62 per point[a]. If, in the computation at the completion of the contract, the bonus achievement points and the penalty achievement points are equal, it can be assumed that the Contractors accomplished the student performance as specified; and the total $26,774.96 will be paid to the Contractors by LEA. If the bonus achievement points are greater in number than the penalty achievement points, the Contractors will be paid $26,774.96 plus $44.62 multiplied by the number of points accrued. If the penalty achievement points are greater in number than the bonus achievement points, the Contractors will be paid $26,774.96 less $44.62 multiplied by the number of points accrued.

Payment Schedule

Fifty per cent of the Fixed Charge, $23,986.00, will be paid the Contractors at the signing of the contract; and the remaining fifty per cent, $23,986.00, will be paid the Contractors on or before December 1, 1970. The cost of Contractors' Product Charges, $26,774.96, will be placed in an escrow account by LEA; and disbursement will be made on or before July 1, 1971.

Summary

Fixed Charge		$ 47,972.00
Product Charges		+ 26,774.96
	GRAND TOTAL:	$ 74,746.96

[a] $26,774.96 ÷ 600 points (2 points for each of 300 students) = $ 44.62

FORMAT FOR REPORTING FORMULA PAYMENT

I. INTERIM PAYMENT

Interim Performance Objectives (Submitted by Contractor)	Fixed Price Proposal by Contractor with Incentive and Penalty Payments	Formula for Payment Proposed by Contractor
Objective 1	$47,972.00 (fixed)[a]	$22,836.00 (at signing of contract)
Objective 2		$22,836.00 (December 1, 1970)
Objective 3		

II. FINAL PAYMENT

Grade Level Increase Stipulated by Contractor on Standardized Test(s)	Fixed Price Proposal by Contractor with Incentives and Penalty Payments	Formula for Payment Proposed by Contractor
.9 grade level or below with attainment of performance objectives	1 penalty achievement point for reading; 1 penalty achievement point for math	$26,774.96 (In escrow) computation of achievement gains and disbursement of funds on or before July 1, 19
1.0 - 1.9 grade level with attainment of performance objectives	no penalty or bonus points	($44.62 per achievement point)
2.0 grade level or above with attainment of performance objectives	1 bonus achievement point for reading; 1 bonus achievement point for math	

[a] No provision has been included for bonus payment to Contractors.

Portions of

Proposal to Establish and Operate Dropout Prevention Centers in Junior and Senior High Schools at Texarkana, U.S.A.

Dorsett Educational Systems, Inc.
Goldsby Airport Offices
P. O. Box 1226
Norman, Oklahoma 73069

Loyd G. Dorsett
President and Chairman

DORSETT EDUCATIONAL SYSTEMS, INC.
GOLDSBY AIRPORT • NORMAN, OKLAHOMA • BOX 1226 • 405-321-9899

August 15, 1969

Edward D. Trice, Superintendent
Fiscal Agent
Texarkana Dropout Prevention Project
Texarkana, U.S.A.

Dear Mr. Trice:

We are pleased to submit herewith our company's proposal in response to your June 10 Request for Proposal relative to the Texarkana, U. S. A. Dropout Prevention Program.

We hope the proposal adequately conveys our depth of commitment to the success of this project. Please be assured that this commitment is so profound that we will take any reasonable risk to expedite the initiation of a program so critical and urgent, using technologies so ripe for application.

We look forward to your reaction to this proposal, and will be very happy for the opportunity to meet with the project staff to discuss any aspect of it in more detail. Please let us know if we can provide any additional information at this time.

Sincerely,

Loyd G. Dorsett
President and Chairman

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A Final Note

Foreword:
A Significant New Approach to Educational Innovation

The past decade has seen two major pieces of social legislation designed to improve the quality of American education, the National Defense Education Act and the Elementary and Secondary Education Act.

The primary purpose of both acts was, quite simply, to make more money available to local school districts than they would otherwise be able to raise. Since both acts specifically prohibited the use of these funds for routine school operations, it was obviously hoped that the availability of extra money would result in widespread educational innovation. It was also hoped that the prospect of increased school purchasing power would encourage private enterprise, not only publishers but also high-technology companies such as electronics and aerospace firms, to turn their attention to the problems of American education.

As can be expected in the workings of our free private-enterprise economy, there have been certain problems. The same kind of salesmanship that sells appliances to the consumer market tends to oversell new ideas and new products to schools. A case in point might be the proliferation of language labs under NDEA. It could reasonably be suggested that more than a few of these installations have been obtained for schools which could have put the money to use for more pressing purposes. A list of other oversold and under-engineered products would have to include most teaching machines in the early few years of the decade, and more recently, computer-assisted instruction.

Further compounding the problem, there is no mechanism with which the nation's public school system can speak with one voice in defining its needs in the field of educational technology. In contrast, the Defense Department has developed techniques, however imperfect, for stating its needs to the private enterprise sector. Given the assurance that there will definitely be a market for whichever firm comes up with the best product, companies unhesitatingly commit thousands of man-hours and millions of dollars to the design of new weapons systems. In the absence of a similar procedure for developing educational systems, the private sector has had little alternative but to develop hardware and hope that schools will perceive a need for it once they've seen it. Historically, decisions to develop a given item have been based either on intuition or the most precarious kind of market research. One has only to attend the exhibits at a major educational convention such as AASA or DAVI to observe the astonishing number and variety of products that this trial and error method generates. Regrettably, there is a self-defeating element in this situation, since the sheer quantity of sources of educational hardware discourages the typical educator from committing any very considerable portion of his capital budget to any specific item or system. The result: Many companies offering many products; some excellent, some marginal, some useless, but none selling very much.

Given this background, it would appear that most of the firms in the field generally referred to as educational technology are motivated as much by social as by financial instincts.

Another major legislative effort has been made to involve the private sector in the educational problem in recent years, i. e., the establishment of contractor-operated Job Corps centers. Much has been written about the flaws in this concept. For our purposes, it seems safe to say that the cost-plus-fixed-fee nature of this format provided neither sufficient incentive nor sufficient control to assure the application of the best educational technology now available. The result all too often has been more of the same, i. e., another dose of the same lecture-and-textbook treatment that hadn't worked in high school. Further the relatively labor-intensive techniques used in the typical Job Corps urban center has added to the already high per capita cost of training one Corpsman, a fact which has not gone unnoticed by Congress. It must also be added that the Job Corps necessarily attacks the educational problem after it is already nearly too late; that is, after the individual has already dropped out of school.

In this context, we would like to submit our own observation and conviction that the concept of asking private enterprise to assist with drop out-prevention while the student is still in school, with the performance incentives being contemplated, may very well be the most important single development in American education today.

We are extremely pleased that we have been invited to submit a proposal. We believe that we will show on the following pages that we are uniquely qualified to perform this work, and that we are absolutely committed to its success.

PART I APPROACH TO THE OBJECTIVES

A. THE PROBLEM AND ITS IMPLICATIONS

1. Statement of the Problem

The problem to be solved in Texarkana is not an unfamiliar one. Culturally and economically disadvantaged students here, as elsewhere, are experiencing a relative lack of academic success and are dropping out of school. These students come to school with a measurably lower ability to learn than their peers, and very little in their background or home life to help them keep up, or catch up, with the teacher-paced tempo of normal classroom instruction. As they pass from one grade to the next they fall farther and farther behind their chronological grade level as measured by national achievement tests. Given the ever-increasing body of knowledge to be taught, the classroom teacher is hard-pressed to handle the instructional burden for the average and above-average students, and simply has no resources to provide for the disadvantaged student what he needs most as soon as he can get it; individualized attention and individualized instruction

Faced with this problem, and the apparent need to continue the policy of social promotion, the typical teacher — consciously or not — tends to give up on the slower disadvantaged student, and the students in turn tend to give up on school. By the time they reach 7th grade, they will be a year or more behind grade level in virtually every subject, and especially, in reading and math. Their situation continues to deteriorate until, at the 9th grade level they are two to two-and-a-half years behind. Thereafter, in the well-chosen words of the Request for Proposal "either they will drop out, stay in school but hold back the rest of the class, be set back several grades with the younger children (creating social problems), or become 'social pushouts'."

Compounding this problem in Texarkana, as in other cities, is the urgency of the school integration problem which will result this year in a mixture of student populations differing in median achievement levels by as much as 60—70 percentiles.

Unless some new resource is brought to bear on this problem, we would agree that the Texarkana schools will experience an even higher drop-out rate than the historical 15% over the next two to three years. We propose to provide that resource.

The problem as stated in the Request for Proposal is a familiar one to our company. One of the areas in which we have built our reputation is in the development of materials, systems, and techniques for individualizing instruction for members of disadvantaged populations.

Nothing in our experience suggests any conflict with the analyses contained in the RFP; in fact, quite the contrary. The only major study we know of dealing with a capital-intensive, individualized, self-pacing instruction system for a disadvantaged population was conducted by our firm under a contract with the Job Corps in 1966. Our research findings at that time reinforce the approach now being proposed for the Texarkana schools.

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Highlights of that study (which is described more fully in Part II of this proposal) include:

1. In one phase of the experimental design, a mean achievement gain of 2.5 grade levels was produced in two weeks of half-day study.
2. Corpsmen given a choice between using a teaching machine or using a programmed textbook preferred the machine by a ratio of 2 to 1.
3. The experimental design was in one phase sufficiently non-labor-intensive that one paraprofessional was readily able to handle the necessary administrative workload for a group of thirty-six Corpsmen.

While there can be no a priori assurance that bringing the potential dropout up to chronological grade level in reading and math will in itself guarantee a lower dropout rate, it is a reasonable hypothesis and eminently deserves testing. As will be discussed more fully in the body of the proposal, we also intend to implement and evaluate other holding-power programs such as counseling services, vocational guidance, home study programs, and so on.

A recent survey in Oklahoma indicates that 44.15% of the dropouts cited "Lack of Scholastic Success" as a major reason for dropping out. The guarantees to be written into the Texarkana contract should assure success in this area. However, 51.49% gave as their primary reason "Lack of Interest". Our learner-centered approach will be uniquely responsive to this problem, and our intrinsically-motivational learning systems will go a long way toward recapturing that interest.

2. Implications of the Project

It is recognized that what is sought by the Program is not merely the rapid remedy of the educational deficiencies of about 2% of a moderate-sized student body, but the demonstration that a private company has either developed or selected media and materials which can rapidly achieve this remedy, at low cost and capable of great expansion in application without extensive use of specially trained professionals.

It is this company's hope that a system for effectively reducing the educational deficiencies of public school students at reasonable cost may be demonstrated at Texarkana. The evaluation of reasonable cost may be affected by controversial factors, but it must certainly bear some relationship to the present costs. Some educators have suggested that educational productivity cannot be increased; in fact, that productivity per dollar must shrink with inflation, so that to obtain more education the only answer is more funds.

This of course is not the case for most of the national total of goods and services where increasing the use of capital brings increased productivity. Dorsett Educational Systems, Inc. has developed a high-capital-intensive learning system which produces learning very rapidly with good scholars, more rapidly than usual with less qualified students, and will work effectively and at reasonable cost with the very slowest students. The prices bid are not intended to be representative of the average cost of providing learning to average students in a well-established system, operated at no risk to the educational organization. It is believed that present costs could be actually reduced, or more likely that more learning could be provided more equitably at no more cost, when new educational technology is widely applied.

Further, it is believed that by application of media which are not anachronistic in today's society, a greater portion of the entering school population can be motivated to remain in the school and obtain a complete education.

What does it cost to educate an individual, compared to his support by welfare, unemployment payments or confinement in penal institutions? The welfare and prison population is overwhelmingly from the less educated portion of our citizenry, and although there is no assurance that had each individual been painstakingly given a maximum chance for education the prison and welfare rolls would have been smaller, it is difficult to believe that some sort of return would have been received from a more intense educational investment. Obviously if a more cost-effective educational means is available, a more favorable ratio, whatever it might have been, is possible and an added investment is indicated. This is presumably one reason why an innovative dropout program is so important.

Here are some of the implications we see in the project, not necessarily in any order of importance:

- It provides a new model for private enterprise to work in partnership with local schools.
- It attacks the problem of achievement "slippage" early, while there is still some considerable hope for educational retrieval.
- It will, because of the guaranteed achievement approach, be one of the very few no-nonsense demonstrations of the results which can be expected from the application of the best educational materials and techniques now available.
- It points the way toward a system for permitting local school officials to subcontract for educational services just as they can for food services, transportation services, and so on.
- At the same time, it will permit school officials to engage in and encourage educational innovation, while insulating them to some extent from any controversies which may arise from pressures to conform to traditional materials and methods.
- It can provide an entirely new freedom of choice for the student, for his parents, and even for the schools themselves. It is entirely feasible to project a system in which not only the potential dropout, but even the "average" student in a hurry to become a wage-earner, could opt for an accelerated learning program leading to a General Educational Development certificate.
- It will also lead toward a sounder alternative for the anxious parent, who otherwise might spend his hard-earned money to send his children to one or another of the "educational franchises" springing up around the country. This should not be taken as a criticism of any specific school of this nature. We simply intend to convey that there is an inherent problem in the fact that there is no effective control over what or how these schools teach, and it would appear that there is a considerable danger that they may teach inappropriate topics, concepts, and even attitudes toward school.
- Finally, there are the economic implications. It is not hard to see how a relatively small infusion of funds for dropout-prevention in the schools could be extremely more cost-effective to our society than a continuation of our present level of support for the already dropped-out. Hopefully, an investment made in education at this stage will be repaid many times over in terms of reduced costs of later unemployment.

Dorsett Educational Systems, Inc. considers itself uniquely qualified to develop, operate and demonstrate such a program. One of our subsidiaries (the EVCO Division) was selected by the Job Corps to conduct the definitive research study on the application of various capital-intensive approaches to individualized instruction for disadvantaged populations in 1966. We have very recently developed and are now marketing a considerably more sophisticated device than was available in 1966, i.e., the M86 audio-visual teaching machine. Fortuitously, this learning system has just become available at the exact point in time when the Texarkana schools have requested private enterprise to propose a capital-intensive, individualized, self-pacing technology to apply to the dropout problem. To our certain knowledge, this is the only production system meeting the requested criteria if paper-and-pencil type programed instruction texts are eliminated as being unmotivating and relatively teacher-intensive.

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Dorsett will propose the forceful application of this completely new learning system never before used with potential dropouts which will rely primarily on very carefully designed and programed individual audiovisual response media. Motivation for intense student concentration on material presented and reinforced rapidly and effectively will be sustained by internal system and program design, and by a schedule of new behaviorally-based motivational procedures known as contingency management.

Dorsett Educational Systems, Inc. is in an especially favored position to appreciate the implications of the motivational effects of the contingency-management system for the project contemplated by the Texarkana schools. The founders of our EVCO division, Dr. James L. Evans and D. E. Cornell, were co-founders, with Dr. Lloyd Homme of the TMI Institute in 1964. It was there that some of the first applications of the motivational techniques of contingency-management proceeding from the work of Premack at the University of Missouri were employed outside an experimental environment. This project seems particularly relevant, since the population trained were underachieving adolescents whose profiles closely match those of the proposed Texarkana population.

For the past two years staff members of our EVCO division have operated a laboratory school in Albuquerque (Modern Methods of Instruction) in which they have pioneered the concept of guaranteed achievement. More recently, we have opened a similar center in Norman. As will be discussed in detail in Part II, our corporate philosophy, history and energies have been dedicated to the design and development of educational materials and systems such as are contemplated by the Texarkana project; i.e., systems that are individualized, self-instructional, self-pacing, relatively capital-intensive, and intrinsically motivational.

B. APPROACH

Our basic approach will be the immediate application of an important new technology that has only very recently become widely available; i.e., the audio-visual teaching machine. A few comments should be made here about audio-visual teaching machines, which we define as:

1. Intended for individual rather than group use.
2. Presenting both sound and visual display, rather than either alone.
3. Automatically discriminating the correctness of responses.

Only a half-dozen companies have made as many as fifty audio-visual teaching machines by this definition; Dorsett has manufactured over 600, including over 400 of the model we propose using in Texarkana, the M86. Certainly at the most, only a few hundred such devices are in experimental use today in the world, and very few models are in current production at reasonable cost.

Although the machines themselves are new, the technology upon which they are based is a proven one. The use of individual sound filmstrips certainly does not lack for proof; three decades of solid academic and industrial experience has proved their value. The effectiveness of programed instructional techniques is also fully validated; ten years of wide use of paper-and-pencil programed texts or machine-manipulated printed or projected text have shown their value when available in the right subject and at the right level.

But the effective combination of these techniques, the audio-visual teaching machine, has not been available until very recently. Dorsett Educational Systems is prepared to risk its corporate reputation, and conceivably its survival, on the worth of this newly available system to the extent of centering our whole instructional approach around it. We expect that the Texarkana Rapid Learning Centers* will become both a proving-ground and a showcase for this important new instructional technology.

In essence, it is proposed that a student will be seated before an audio-visual teaching machine which will present colorful, well programed, validated audio and visual frames which will frequently elicit specific but prompted responses. Two sessions of about 20 minutes each with 10 minute informal breaks for reinforcing events will make up a "lesson hour". A regimen of highly concentrated and highly motivating activity with carefully calculated effects of massed and distributed practice will result in very rapid learning of material pointed toward specific learning goals.

The experience of Dorsett in its operation of Draughon's School of Electronics, (a wholly owned subsidiary now changed to Dorsett Technical Institute, Inc.) which for several years has used individual audio-visual instruction; in Hills Technical Institute, a subsidiary organized by Dorsett in 1968; in Hills Business University, a non-profit affiliate whose bonds are mostly owned by Dorsett; in several Colleges of the University of Oklahoma; in the John F. Kennedy School in Norman; in the Modern Methods of Instruction school in Albuquerque; in five schools of the Catholic Archdiocese in Washington, D. C., and in the Dorsett Learning Center opened earlier this year, all confirm our confidence that rapid learning and high motivation can be obtained. In addition, we believe that deliveries of devices and programs to the Universities of Texas, Oklahoma, Wisconsin, Baylor, Bowie State College, Maryland; the U. S. Post Office; the Department of Agriculture; U. S. A.I.D. (sent to Columbia University and American University of Beirut, Lebanon); Stockholm Public Schools, Sweden; Radio Corporation of America; Prentice-Hall; two learning centers; a hospital; a Texas School Media Center; and others; all under firm purchase orders, will result in useful data. Tests on our devices by Columbia, USC, UCLA and others have found no comparable units.

In fact we know of no other individual audio-visual-response devices near the price of the Dorsett M86 ($200, plus $100 service contract) which are in quantity production and available for delivery from inventory.

Although we intend that audio-visual teaching machines will be used for the majority of the instructional burden, we recognize the cost-effectiveness of certain printed text techniques for some purposes. For example, it can be anticipated that some of the RLC students will be reading at grade levels well below 7th. For these students, we intend to at first use a somewhat higher mixture of the programed-instruction booklets developed for use in the Job Corps by our EVCO division in math, and by others in reading, to bring them up to the 7th grade level, at which point the audio-visual materials will take over to a greater extent.

These Job Corps booklets are available at relatively low cost from the U. S. Government, and unless there is an unexpectedly high percentage of unusually disadvantaged students, it would probably not be economical to convert all of them to the audio-visual format to supplement available audio-visual material.

As regards the majority of other non-textbook printed materials, however, we feel that this is not what is called for in the Texarkana project. Most such materials have been readily available for some years, and many are in fact in use in the Texarkana schools, but the dropout problem is still with us.

We would submit that a system which is intended to improve reading ability dramatically should not depend on either the student's present skills and initiatives in reading, nor should it rely on the intervention of a teacher to pass out more or less conventional reading material. In fact, we think such a system is doomed to failure. Further, we see no reason to teach other skills, for example mathematics, in a format based wholly on the ability to read.

We suggest that what is needed is an audio-visual approach that has both educational merit and the advantage of being intrinsically motivational. This is what we propose to provide.

But we do not mean audio supplemented with manipulated visual material such as workbooks. Were this effective, the self-improvement records, tapes and radio broadcasts that attempt to teach, even with qualified and motivated students, would have achieved their modest goals. They have not. And the admitted benefits of automatically-stopped audio tapes or records fall short of the full impact of true audio-visual teaching machine technology.

* We prefer the name Rapid Learning Center largely because it is easier to remember and say than Accelerated Learning Achievement Center. Also, people tend to see acronyms where none are intended and ALAC could be a problem.

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1. Student Flow

a. Overall

One of the important ways in which our approach differs from that outlined in the Request for Proposal is in the area of geography and logistics. Precisely because the system we are proposing is largely self-instructional, and because the equipment we are proposing is both portable and inexpensive, we see no necessary reason for transporting all students to one location such as the W. T. Daniels school.

For a wide variety of reasons, primarily economic and social, we would much prefer to locate decentralized branches of the Rapid Learning Center at or in the schools they will serve.

On economic grounds, the merits are obvious. No addition to our staff will be necessary, since six persons will be required either way for the 150 student level and little extra instructional materials or equipment will be necessary; and our basic cost structure for grade-level achievement will remain unchanged. But since we will not be wasting up to one hour of the student's time per day in travel and administration, this hour will be available for additional instruction either in the school setting or in the RLC. It should be noted that this cost-benefit will not be passed along to the contractor, since we will be paid on the basis of clock-time in the RLC, not on calendar-time. But it will work to the benefit of the schools, since more students can be handled per unit time, and thus the fixed costs of operating the RLC will be spread over perhaps a third more students than would otherwise be anticipated.

On social grounds, it seems obvious that the students' self-perception, as well as their perception of the project, would be improved by eliminating the somewhat degrading element of busing. It is our firm intention to make the RLC concept so attractive, environmentally and educationally, that our students and their peers will look upon attendance as a privilege rather than a stigma. The removal of the bussing interlude will also eliminate one unnecessary potential discipline problem. Further, it will eliminate one possible source of concern within the community.

And finally, it will make for a more meaningful experimental design and model for replication in other communities which will often not have an empty school building available to them.

Our preliminary discussions indicate the availability of suitable space for branch RLC's within three of the four schools. An area of 800–900 square feet would be preferred at Washington, College Hill, and Liberty-Eylau, and approximately twice this amount will be provided in a temporary steel building or mobile classroom to be located on the Arkansas High and Jefferson Junior High campus.

These areas will be modified for temperature, acoustical, and lighting control. It should be emphasized at this point that whatever space is provided will be made more attractive in part for the purpose of motivating the Center students to attend and remain in it. (See Fig. 1 for our conception of a typical Center.)

One of the features of the Centers will be carpeting. It is Dorsett's experience that not only will floor maintenance be reduced, but student behavioral level will be substantially affected by the appearance, resilience, and acoustically quieting effects of carpeting. Adequate reserves will be established for maintenance due to wear and damage due to accidents or vandalism. Another feature of the Center may be the installation of FM-stereo receivers which could be tuned to the Texarkana FM station at most times during the school day. In this context, it should be remembered that study will be completely individualized, with permanently assigned headsets, and that lectures and group discussions will be rare, small, and used as reinforcement contingencies or breaks. Obviously, any procedure which depends primarily upon the special personal skill of unique imported professionals is not one which can be rapidly expanded and widely disseminated.

If the utilization of centrally-located space within each school proves to be impracticable, we would then propose the use of prefabricated steel classrooms or wheeled mobile classrooms adjacent to each of the four schools, to be installed at the contractor's expense if necessary.

Another desirable outcome of the decentralized approach is that the available space in the Daniels school can then be reserved for expansion and the ancillary programs described on page 3 of Attachment II to the Request for Proposal.*

We would like to assure the project management that we do not think the student's environment is a trivial consideration. Time after time, one or another of our learning centers have found that a given learning task takes 2½ to 3 times as long when performed in a typical public school environment as it does in our facilities. We feel that this is at least partially attributable to the businesslike atmosphere induced by consistently applied contingency management schedules. We work consciously at exhibiting our seriousness of purpose, and when the student perceives that we are actually on his side, he supports and works at that purpose. Accordingly, we will do everything within reason to make the transition from routine school activities to the RLC a "through the looking-glass" type experience, whereby the student will leave behind avoidance behaviors, such as how-not-to study and how-to-play the game. To this end we will attire our staff distinctively, for example in blazers of a particular color. We will also want to insulate our students as completely as possible from routine school activities while they are in the RLC; in order to help enforce this insulation, we will propose that anytime one of our students is called out of the RLC for any reason, that no time be charged against our accounting for that student for that full day. Finally, we will want the privilege of dismissing students from the program if and as they disrupt our controlled environment. We do not, by the way, consider the last to be a serious problem quantitatively, based on our previous experience with similar populations.

b. Student Flow Within the Center

1. Orientation Period

It is critically important that a student's first contact with the center be non-threatening and non-aversive. To this end, there will be no testing during his first week of attendance. Instead, cassette tape players will be made available the first day, and each student will listen to a recorded presentation of the purpose and philosophy of the Rapid Learning Center. During the remaining four days of the week he will be encouraged to familiarize himself with the self-instructional equipment including the Dorsett M86, to select filmstrips that interest him for viewing, to look at single-concept 8mm films, and to browse in the available free-reading material. The only exception to the no-testing rule during the first week will be administration of a 5-minute "fun-and-games" reading quiz on Friday. This instrument, the Ohio Literacy Quiz (see attachments), has been found in our research to have a high correlation with lengthier and more tedious reading measures.

The results of these quizzes will be analyzed over the weekend to enable our Rapid Learning Center managers to obtain a first approximation of optimum entry level for each individual.

* We would also like to have space in the Daniels school as a home-base for our Director, and as an evaluation center for new materials. We also expect to conduct our staff training here.

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It is anticipated that many, if not most, of our students will be reading below the 7th grade level. Although our overall approach will be heavily audio-visual in nature, thus minimizing the effect of initial reading problems, it is of course obvious that the production of reading achievement is critical to the success of the project, and this area will receive first attention in the Center.

2. Basic Level

As discussed previously we will initially also utilize the Job Corps Reading System, including programed instruction booklets, available from the General Services Administration, for our basic reading program. Therefore, the first event of the second week in the center will be the administration of the appropriate screening instrument (RJS1). Based on these results, each individual will be entered at the appropriate level of the Reading system. (See Appendix 2 for the student flow within this system.) As students complete the Job Corps reading sequence or the main screening tests indicate no need for it, they will be branched to more advanced reading materials, both programed instruction and audio-visual. Because of the importance of reading skills to other subject-matter, including arithmetic reasoning ("word-problems"), we will use both of the two study-hours in the RLC for reading instruction until the student has demonstrated a minimum of 7th grade achievement. At this time, the second hour of each study period will be converted to math instruction.

Here again, the Job Corps system will be used initially. The appropriate screening tests (MFK01, 2, and 3, and MFC22, 23, and 24) will be administered and each individual will be entered into the system at the appropriate level. (See Appendix 3 for student flows in the math system.)

3. Progress Checks

Progress checks will be given at frequent intervals, perhaps two or three per week per subject. Frequent progress checks are important when administering programed instruction materials, since some students will tend to try to go through the materials too fast, and will simply turn pages to "get through the book". This behavior will be recognized through observing low scores on progress checks. Others will try too hard to get every step exactly correct and will often go through a lesson two or more times in an attempt to get the best possible scores on post-tests. A large deviation from the mean time necessary to complete a lesson will pinpoint this problem. The self-pacing nature of the programed instructional materials to be used will virtually guarantee that the students will be scattered throughout the course material at all times, and that progress checks will therefore be taken at random and unpredictable times. Since we consider feedback from these progress checks to be a vital part of learning efficiency, we intend to score them immediately and use the results to assign new course material.

Without the use of some sort of scoring device, this would obviously require a great deal of the center manager's time, and we do tend to shift the overall project in the direction of a labor-intensive system.

Our solution to this problem will be the use of the Dorsett Teleschool, a small test scoring device which produces a visible record of student answers on an IBM portapunch card which can be quickly evaluated visually by the instructor for diagnostic purposes. The card is also available for transmittal to the central RLC for later use in the intended item-analysis, which will be used to pinpoint weaknesses in the overall system for future refinement and upgrading. (See Appendix 4 for additional information on the Telescholar.)

4. Intermediate and Advanced Levels

As students complete the Job Corps reading and math systems, or as their screening tests show no need for it, they will be given more advanced diagnostic instruments, and directed to intermediate or advanced levels. The instruments presently contemplated for this purpose are the SRA Basic Skills in Arithmetic and SRA Reading Record.

The primary instructional media at the intermediate and advanced levels will be audio-visual teaching machines. At the intermediate level, most of the work will be in the area of number facts and vocabulary drill and review. At the advanced level, we will use a recently-produced "Trouble-shooting Math, Grades 7—12" program presented on the Dorsett M86 machine. This program was originally developed for Job Corps needs in a paper-and-pencil programed instruction format.

It would, by the way, be an error to attempt to correlate too closely the study times and costs of isolated uncontrolled anecdotal successes, as in the Job Corps, reformatory schools, or private tutor centers, with the proposed Texarkana program. Where student selections from the entire population having educational deficiencies which are negatively skewed, as at Texarkana, are compared with scattered programs with special selection and motivation providing highly positively skewed groups, there may be an unfavorable difference in study time for given achievement.

At the advanced level we will also select and encourage the individual student to select, from a large library of 35mm educational filmstrips in the fields of mathematics and language arts. In Appendix 5 we have included a listing of some of the resource material available for individualized instruction on the M86, with a preliminary indication of the titles which we feel should be included in a minimum library.

5. Graduate Level

Upon completion of the advanced level, defined tentatively as two grade levels achievement in both reading and math, an evaluation will be made of the student's progress to date and, at his option, and with the recommendation of the RLC manager, and approval of the Project Manager, he may stay in the RLC program at the graduate level. It is at this level that we feel we are most likely to realize the essential purpose of dropout prevention. We could offer additional reading and math instruction for this higher achieving student, as well as additional subject matter in other areas designed to maximize the chances of continued success in school, graduation, and a subsequent role as a useful member of society.

Some of the areas proposed to be covered in the Rapid Learning Centers in addition to reading and mathematics include:

1. Study Skills
2. Communications Skills
3. World of Work
4. Career Counselling
5. Dress, Comportment, Personal Appearance

A schematic representation of a typical student flow through the RLC, then, may be arranged as shown in Fig. 2.

It will be Dorsett's intention to operate the Centers at or near their effective capacity as soon as they are in efficient operation, which should be within 60 days from the beginning of school. It is hoped and expected that educational deficiencies can be overcome rapidly. It is proposed that in the event the 150 students (or 400) expected to be assigned during Phase I have all been assigned to the Centers and in part de-assigned due to completion of work and excess facilities exist and excess funds from the grants remain, additional students over this number will be assigned and payments made therefore until the available funds have been fully employed.

2. Equipment, Materials, and Techniques

As specified earlier, we are proposing a decentralized Rapid Learning Center system. Our planning calls for four centers, to be located at Washington, College Hill, Liberty-Eylau, and on the Arkansas High/Jefferson Junior High campus. The first three named will have space and equipment for 20 students; and the last for 40. The physical arrangement, if used in three 2-hour shifts, would provide a maximum RLC capacity of 300 students without further expansion. An assignment of 100 is expected at any given time.

In addition, we are proposing to use the Daniels school as a central, specializing RLC where special programs will be conducted and new materials will be evaluated. One of these special programs will be a general investigation of the effectiveness of various reading devices and equipment. If and as a given program demonstrates its effectiveness with the RLC target population, we will recommend additional purchases so that the program can be implemented in each of the four centers.

The equipment that we are proposing for initial installation is as follows:

1. Roberts ¼ in. videotape recorder, monitor, and vidicon camera
2. EDL AUD-X Mark 2
   a. Viewing Screen
   b. Filmstrips/Records
      AX—RA
      AX—AA
      AX—BA
      AX—CA
      AX—DEFA
   c. Workbooks
3. EDL Controlled Reader
   a. Filmstrips (Stories and Comprehension)
   b. Printed Materials
4. Learning Through Seeing
   a. Junior High Program
   b. Senior High Program
5. Rheem-Califone
   a. Audio Reader (Grade 6)
   b. Comprehension (Level 7 and 8)
6. Imperial Reading Programs
7. Listening Stations
   a. Tape Recorder (Roberts)
   b. Acoustifone Audio Multiplexer
   c. Headsets

a. Equipment

Each RLC branch will have a self-contained operational capability and will contain the following basic equipment:

1. Ten M86 audio-visual teaching machines
2. Two record players (auto stopping)
3. Two audio tape recorders (auto stopping)*
4. One 8mm Technicolor projector
5. Five "Telescholar" testing devices

See Figure 1 for our conception of what a typical RLC will look like. The only major piece of equipment not shown is a videotape recorder and TV camera which will be used in both our communications-skills programs and for reinforcement events in our contingency management system. This equipment will be rotated among the four branch RLC's.

NOTE: One of the major uses of the self-stopping tape recorders will be in the reading program, where they will be used to let the students "listen along" while a book, such as the Springboards in Reading series, is being read.

b. Materials

The instructional materials to be provided in each branch are as follows:

1. Job Corps Reading system
2. Job Corps Mathematics system
3. Job Corps Language Arts system
4. Job Corps World of Work system
5. Reading Comprehension (Programed Instruction booklets published by Dorsett's EVCO division.)
   This program will be used initially in its present format of seven PI booklets. Early in Phase I of the RLC's, it will be converted to an audio-visual format for use with the M86. These materials have produced excellent results with RLC-like populations.
6. Troubleshooting Math, Grades 7—12 (Dorsett/EVCO)
   This program was originally developed and validated for Job Corps populations; it was later re-validated within the Bureau of Indian Affairs and in a large public school district. It has very recently been converted from a paper-and-pencil format to an audio-visual format for use with the M86.

Programs 5 and 6 are entirely proprietary with Dorsett, since we do not intend to release them for general distribution for at least one year. No other firm to our knowledge has developed a capability for creating audio-visual programed instruction materials of this nature.

Additional Materials:

7. Learning Through Seeing (LSI, Inc.)
8. Learning 100 (EDL)
9. Study Skills Kit CCC through III (EDL)
10. How to Study and Study Habits Checklist (SRA)
11. Cracking the Code (Reading Workbook) (SRA)
12. Reading in High Gear (Woolman, SRA)
13. Computational Skills Development Kit (SRA)
14. Cross Number Puzzle Boxes (SRA)
15. Mathtapes (audio tapes) (SRA)
16. Filmstrips, Reading (several producers; see Appendix 5)
17. Filmstrips, Mathematics (several producers; see Appendix 5)
18. Dress, Appearance, Makeup booklets (Milady, Mr. Gentlemen, etc.)
19. Consumer Education (J. C. Penney's Educational Division)
20. Audio tapes (Teaching Tapes, Inc., Imperial Tapes)
21. Phonograph Records (Caedmon, Spoken Arts, pop, etc.)
22. Single-concept films (8mm), primarily on physical education and sports for use in the contingency-management system.
23. Free-Reading material (comics, classic comics, etc.)
24. Springboards to Reading (John Wiley)
25. Vocational Planning Inventory (SRA)
26. Occupational Exploration Kit (SRA)

The above bill-of-materials should be thought of as only the basic complement for a 20-student RLC. A budgetary reserve will be maintained for new materials which may come into being during Phase I of the project. We now expect to obtain one or more of each of the following items as they become available and suitable software becomes available for them:

1. CBS/Viewlex AVS 10 audio-visual teaching machine
2. Borg-Warner System 80 audio-visual teaching machine
3. Educasting "Educassette" audio teaching machine
4. Forers 501 audio-visual teaching machine

Techniques

1. Programed Instruction

Our EVCO staff, directed by Dr. James L. Evans, has been doing pioneering work in the field of programed instruction (PI) and teaching machines for the past decade. We know the quality of the PI we have developed ourselves, and have evaluated the quality and applicability of PI available from other sources. Judging from the language of the Request for Proposal, it is probably not necessary to make a case for using programed instruction texts in the contemplated RLC environment, especially in the case of the Job Corps reading and math programs, which were developed at considerable expense to the taxpayer and now are available inexpensively from the government.

2. Individualized Audio-Visual Instruction

Few would argue with the suggestion that, all other things being equal, audio-visual instruction should be used whenever possible with disadvantaged populations since these groups typically exhibit both reading disability and reading disinclination.

There is also a considerable body of educational research indicating that students learn more from an audio-visual presentation when some sort of active response is required.[1] And, there is little doubt regarding the effectiveness of immediate and automatic reinforcement of correct answers in any sort of instructional sequence.[2]

It is difficult for us to over-emphasize the importance which we attach to the fact that we are proposing the use of an instructional system that capitalizes on just these techniques, our Dorsett M86 audio-visual teaching machine. Of our own knowledge, this is the only comparable device on the market today that is both in production and inexpensive enough to be used in sufficient quantity to carry much of the instructional burden, as distinguished from a laboratory model or curiosity item.

As noted earlier, we expect to use this machine as the primary source of instruction at the intermediate and advanced levels, and if permission can be obtained to convert Job Corps reading and math programs to this format, at the basic level as well.

Add to this the versatility of also being able to use the same device to individualize the instructional use of hundreds of existing educational filmstrips, and we submit that we will bring to the Texarkana project an instructional system unavailable from any other source, and one which will help us immeasurably in guaranteeing the achievement of the goals cited in the Request for Proposal. (Refer to Appendix 5 for a sampling of the great variety of off-the-shelf filmstrips which we can use to individualize supplementary instruction in reading, math, study skills, vocational arts, etc.)

3. Motivational Techniques

a. Contingency Management

"An important factor in the success of EVCO/Dorsett's learning centers, and in the educational research and development performed by EVCO for various government agencies, has been the systematic application of the motivational techniques of "contingency management."

Briefly, it should be noted that extensive applications of this technique (based on some of the work of Premack at Missouri) were first made at the TMI Institute in Albuquerque in 1963–65. This non-profit institute was founded by Dr. James L. Evans and D. E. Cornell of EVCO and Dr. Lloyd L. Homme (now of Westinghouse) who directed the institute and has published extensively in this field. (For a fuller discussion of contingency management, we have included one of Dr. Homme's papers as an attachment.)

The stimulus for the refinement of contingency management was, quite basically, the difficulty of motivating students to complete PI sequences, which, especially at that time, tended to be long and tedious. To considerably oversimplify, it was found that a great many activities could be identified which the student would prefer to engage in than going through a PI sequence. These activities, called high-probability behaviors, can be specified by observing students, asking them, or sometimes prompting them through the use of a "reinforcement menu". Once an appropriate high-probability behavior is identified, it can be used to reinforce the lower-probability behavior of attending to an instructional unit.

This system sounds deceptively simple. Many will say that this is how they've always managed behavior. But the key is to let the student himself identify the desired high-probability behavior, and then to make a "performance contract", either written or verbalized, in which the student agrees to perform a certain *amount* of low-probability behavior in return for the consideration of being permitted to engage in a higher-probability behavior *for a specified period of time*. These techniques, when applied systematically and consistently, have produced particularly dramatic results with disadvantaged populations. (See attachments for examples.) As noted in Part II of this proposal, we anticipate using Dr. Homme as a consultant in the field of motivation in the Texarkana project. (We have been advised that the Westinghouse Learning Corporation is not submitting a bid; in any event, there would have been no conflict-of-interest problem since Dr. Homme and Dr. Evans maintain a continuing professional dialogue, and since Dr. Homme has an on-going consulting agreement with Dorsett and has consulted with us on several projects in the past.)

Another pre-eminent educator who has worked extensively in the field of motivation is Professor B. F. Skinner of Harvard. Apropos of motivation in the public school setting, Professor Skinner has written "A child will spend hours absorbed in play or in watching movies or television who cannot sit still in school for more than a few minutes before escape becomes too strong to be denied. One of the easiest forms of escape is simply to forget all one has learned, and no one has discovered a form of control to prevent this ultimate break for freedom."[3] We have invited Professor Skinner to participate with our firm in the Texarkana project. Because of his perception of the importance of the project, and his respect for the competencies of Dr. Evans and Dr. Homme, we have every reason to believe he will agree to participate to whatever extent is feasible.

[1] Lumsdaine, A. A. and Gladstone, A. I., "Overt Practice and Active Embellishments", *Learning From Films* (Edited by Mark A. May and A. A. Lumsdaine), New Haven: Yale University Press, 1958.

[2] Holland, J. G., "Teaching Machines and Programed Learning, II" (Edited by A. A. Lumsdaine and R. Glaser) Washington, D. C.: National Education Association, 1965, pp. 66-117.

b. Reward System

A distinction should be made between contingency-management and a reward system. The latter is just what it implies, a system of rewarding achievement, not simply for performing a given behavior. In the Texarkana project, we will provide two different reward systems, one for achievement on unit tests, progress checks, and the like, and another for the basic achievement desired, i.e. a grade-level increase.

1. Unit Achievement

For this purpose we plan to obtain tokens indicating learning achievement. These tokens could come in two denominations (10-unit and 50-unit) and might be convertible to Sperry and Hutchinson green stamps. The reward system will be designed so that even a minimally achieving student could fill a book very early in the program and so that a maximum monetary value of $3.00 would not be exceeded per grade level. (For additional background on motivational systems of this nature, the reader is referred to Allyon's book, *Token Economies*, Appleton-Century Croft, 1969.)

2. Grade-Level Achievement

For a grade-level's achievement gain, we plan to give the student a transistor radio. Dorsett has sources from which we can obtain these radios for under $3.00. Although we may change our thinking on this point, we do not now expect to provide alternative "prizes" for the second or third grade-level achieved, assuming that the students will continue to put forth effort to get another radio for a parent or friends.

Obviously the implementation of any reward system having even a nominal monetary equivalent must be cleared with the Boards of Education through the Representatives or Agent, but it is hoped that this typical characteristic of private business operation will be permitted. We believe some variation may be possible as the system is expanded into the school districts. (See Appendix 10 for one of our consultant's affirmation of the desirability of reward systems. Dr. King formerly directed the Guthrie, Oklahoma Job Corps Center.)

We may also employ a more subtle, but in many cases very effective system for providing additional motivation; a progress chart to display individual progress. We have previously used such a system with other disadvantaged populations, and are aware of its value and limitations.

4. Parental Involvement

We recognize the difficulty of reaching and getting effective support from the parents of the RLC population. We nevertheless expect to implement an outreach effort, at least on an experimental basis. If we could influence the parents enough to help them manage an environment for completing a modest amount of homework, a great deal would be accomplished. One approach we will try will be to record our message on cassette-type playback units and send a few home with our students to see what happens. Another will be to hold an open house for parents of RLC students periodically, perhaps monthly if attendance warrants. We will encourage the formation of a Parents' Advisory Group. Other approaches will be tried. To this end, we have secured the services of Dr. J. M. Regal of the University of Illinois, one of the country's leading authorities in the field of encouraging parental support and assistance with the schools' educational process.[4]

5. Vocational Counseling

The central untested hypothesis of the Texarkana RLC concept is that simple educational achievement will be enough to reduce the dropout problem. We hope in the coming months to demonstrate that this is in fact a workable hypothesis. But we also intend to go one important step further and work with each individual in our student population to help him identify at least one employment goal that is realistic and achievable, and then work with him and show him how it could actually be attained. We feel that we have an obligation to the project, to the schools, to the community, and to the individual, to give him at least one more option than unskilled manual labor at the arsenal.

6. Speech Improvement

The two most obvious features of a person presenting himself for a favorable impression on others as at a job interview are first, personal appearance or grooming, including dress, cleanliness, hair, nails, and so on; information on which can be learned by several good audio-visual programs and sound filmstrips, and second, speech conduct. The command of a good reading vocabulary is desirable, but the use of correct grammar in speaking and well-controlled pronunciation is essential to make a good impression.

It is not suggested that regional or cultural speech patterns be abandoned for use in family or familiar spoken communications, but unquestionably the appropriate use of a businesslike manner of speech results in superior relationships with public and co-workers. If this alternate speech pattern is not available, oral communication in modern vocations may be poor, and poor interperronal relations result.

In familiar speech, there is often a very low level of information being transmitted in everyday relationships, and in fact those persons of limited verbal capability find it difficult to express very precisely messages of high information content. In this context, "information" is used in its technical sense; the measurement of which indicates the degree of unlikelihood of the message. Clearly a spoken message containing a series of technical terms, or even common English words in a context without considerable semantic structure, would be much more difficult to understand than the usual brief comments to friends or family members, the nature of which is probably even apparent by circumstances and the tone of voice, even if the actual words are indistinctly pronounced.

Because of the considerable borrowing of foreign words by the English language, the irregular rules of pronunciation offer serious problems to unskilled speakers. The embarrassment of mispronouncing words which are in one's reading vocabulary but not the spoken vocabulary is common, but this cause is unnecessary when the AVTM is employed.

The precise discrimination of speech sounds is essential in messages of relatively high information load, especially if the words themselves have high information content, which means low likelihood.

[4] See attachment, *"Parent Education Experimental Program"*, Regal, J. M. and Riley, D., Dept. of Human Resources, Oakland, California, 1968.

For example, the common practice of eliding diphthongs into pure vowel sounds causes uncertainty when meaning is not obvious from verbal or circumstantial context. The sound "I" is a diphthong involving upward jaw movement, but if it is unnecessary to distinguish it from the pure vowel sound "Ah" one avoids such effort. The statement "I am hot" could easily be "Ah'm hot" with less speech effort if regionally or culturally acceptable; and in ordinary circumstances would no doubt be preferable. But out of context, that is to say when conveying greater information because it is unexpected, for example within a list of stock quotations, the more formal pronounciation would be more likely understood.

Dorsett wishes to prepare Center students to live in a more complex and rewarding environment than that to which they would be consigned if their educational skills are limited. Obviously a useful part of this preparation would be the practice of more carefully formed speech. It is proposed that this company will provide suitable AV teaching machine programs as well as install at its expense several tape recorders and programs in an attempt to determine if rapid progress in improving pronunciation skills can be accomplished. It is reasonable to expect that repeated discriminated responses to a voice speaking standard English will have a salutary effect upon the learner's own speech production.

Another approach to speech improvement will involve, quite simply, giving the students the opportunity to talk. We will use the "reinforcing-event" area for this purpose when and as students identify the opportunity to talk to each other and/or our staff as a high probability behavior.

As this occurs, we should observe a number of very useful by-products. For example, we might:

1. Develop a better understanding among teachers and RLC staff as to the pressing personal concerns of students in the target population.
2. Provide an opportunity for students to express personal frustrations and feelings toward the traditional school environment.
3. Provide a setting in which the students can freely discuss their feelings toward the RLC program.
4. Provide an opportunity for the potential drop-out to have an open dialogue with members of the "establishment".
5. Develop a fuller understanding among the RLC population of the desirability and need for communicating at all levels; speaking, writing and, of necessity, reading.

7. Classroom Behavior Skills

One set of learning skills we expect to teach in the Center is certain improved classroom behavior. Since we have a powerful training tool and technique, we hope to provide some early external recognition of scholastic progress. This may include "brighter" attitudes in regular classes. For example, we expect that teacher approval and support of the Center might follow upon a noticeable improvement in assigned display of teacher-reinforcing acts. These would include not only an increase in the emission of nominally respectful statements ("Yes, Ma'm", "No Sir", "please", "Thank you, now I understand.") but also non-verbal behavior including appropriate facial expression, eye contact and more frequent class participation.

We also intend to seek all other possible means of cooperating with the school faculty and enlisting their support in helping us achieve the goals of the dropout prevention project.

In past experience with innovative educational projects, we have learned the importance of involving the teaching staff in the goals of the project from the outset. It is particularly in our interest to assure this involvement and active support at Texarkana since anything learned in the conventional course of study obviously works to the students' advantage, and thus to our financial benefit.

8. Related and Ancillary Programs

Dorsett has available a number of AV-response learning programs for its M86 AVTMs which would be useful to upgrade employment and basic math and reading skills of retarded, educationally disadvantaged and under-employed members of the community. Some, like filing, bookkeeping, listening, shape, color and sound discrimination are not on the attached list. Not all programs on the list are available from inventory. Dorsett will therefore be willing and especially qualified to operate one or more Community Learning Centers, or the RLC(s) as such Center(s) during nonschool hours. The low cost of the AVTMs would suggest that administrative and other problems might be simplified by establishing such Community Learning Centers with similar but separate facilities to the RLC(s), perhaps in existing municipal library branches, or existing community service centers.

Dorsett will bid on operation of programs for disabled learners, mental retardees, adults, recent dropouts who wish to receive a GED, disadvantaged youths who wish to prepare for college and others, either on a performance basis as previously outlined, with adjustment for learner characteristics, or through one of its wholly owned subsidiary schools or learning centers at regular low hourly rates.

Dorsett will propose that during the course of the contract a study of the characteristics of the "target population" of the proposed schools' Rapid Learning Centers be conducted to determine the actual levels of ability to learn, on recognized scales, to evaluate means of increasing general motivation and job aspiration, and to find means of lifting the level of achievement to full potential.

As described above, we feel that the RLC system we are proposing is the optimum configuration of physical layout, equipment, materials, and techniques to meet the stated objectives of the Texarkana dropout-prevention project, based on the current state-of-the-art. But the state-of-the-art, of course, is not static. By awarding the RLC contract to our firm, the Project management assures itself not only of the design of the initial system, but also an ongoing educational research program which can be counted on to update equipment, materials, and techniques throughout the life of the project. The element that provides this assurance, of course, is our professional staff and consulting group, described in Part II of this proposal.

9. Proposed Method of Cost Reimbursement

We recognize the necessity for keeping the technical and cost proposals separate. We think however, it might aid the reader of the technical proposal if he were aware of the general compensation method we are proposing. Accordingly, we are providing the following proposed guidelines, but have left the figures blank.

Dorsett Educational Systems, Inc. proposes to base its payments on a base fee of _____ for each student-subject-grade level increase at the Centers, times an efficiency factor obtained by dividing nominal hours per grade level increase (GLI) by the actual hours of study at the Center required per grade level.

For example, if a student achieved one grade level increase in mathematics in 100 hours of study, a payment of $_____ base fee times _____ nominal hours divided by the 100 hours; or $_____, would be accrued. But if he took only 75 hours, $_____ would be accrued. A similar computation would be required for odd amounts of achievement. If a student advanced 2.2 grade levels in Reading Achievement in 200 hours of study, Dorsett might accrue:

$$\frac{(2.2 \times \$_____)\,(2.2 \times _____ \text{ hrs})}{200 \text{ hours}}$$

An alternate linear approximation to the above formula which avoids high payments for exceptionally rapid learning, but causes the contractor to risk getting very little payment even when achievement occurs after long study, would be: $_____ per grade increase, less the number of study hours required to achieve each grade. For example, if one grade increase in math were obtained in 100 hours study, an accrual of $_____ minus 100, or $_____, would be made. With either formula, limits might be established for the lowest and highest rate.

Under appropriate circumstances Dorsett will accept payment schedules of either type.

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EXAMPLE OF REIMBURSEMENT COMPUTATION

Table of sample payment accrual factors, with a nominal base of $80, and 80 nominal hours per grade level increase.

PRIMARY METHOD		
100 study hours per GLI	80 actual study hours per GLI	60 actual study hours per GLI
$64	$80	$106.66
ALTERNATE METHOD (based on $142 minus no. of hours per GLI)		
$42	$62	$102

NOTE: Figures shown are not necessarily those bid in the separate cost part of this proposal. See Figure 7 for a graphical representation of how these nominal figures could be used to establish rates.

An example of calculation of contractor payment accrual might be: Student J. B.; Reading, average GL starting, 6.3; at completion, 7.5. GLI = 1.2. Total study hours on reading, 108 hours. Contractor payment accrual =

$$\frac{(1.2 \times \$80)\,(1.2 \times 80 \text{ hrs/GLI})}{108 \text{ hours}} = \$85.33$$

based on the first formula.

♦♦♦♦♦♦♦♦

The foregoing contractor payment accrual process, and any proposed base figure, like $80 and 80 hours per grade level achievement would apply only to those students randomly selected from the entire population of 1600 designated educationally underachieving students described in general by the last page of the Request for Proposal. In the event there are a fraction of the assignees specifically selected as problem learners even within this slow learning population, it is proposed that the contractor payment accrual be based on the average accrual per study hour of the randomly selected assignees.

In the event that all of the assignees individually meet the criteria on the last page of the Request for Proposal, 20% may be deducted from all payments computed by the foregoing proposal. It is expected that substantial overcapacity will be available in staffing and facilities at the Centers. In the event that terms of this contract result in lower than anticipated payments, or if additional funds become available, the contractor may request additional assignees to utilize a greater portion of capacity and accrue additional payment.

It should be mentioned that Dorsett has several statistically-creative people on its staff, and that a good many more complex costing methods have been discussed internally. We feel however that the relatively straight forward method proposed above is presently the most equitable and workable for both parties to the contract. Detailed cost records will be maintained, and alternative plans can later be tested for "goodness of fit". With performance data in hand it is entirely possible that a preferable formula can be obtained for Phase II.

The bid made with this proposal might be contrasted with other prices quoted for education and training. For example, private tutoring costs $3 to $10 per hour, and while it is expected that the Dorsett system will actually produce more measurable learning than any current private tutoring, its cost on a guaranteed effective basis is a small fraction of this amount. In government and industry, seminars often run $20 per student hour, and intensive foreign language tutoring approaches this figure.

At the other end of the scale, public schools which operate with some contributed capital and services still spend about $500 per student-year. This means that for nine years of school to produce 6th grade reading skill, the cost per basic subject grade level achievement has been about $250, assuming reading study has been using a third of student effort. A similar historic cost might apply to mathematics skills. Now a private firm without extra community contributions to its efforts is asked to bring skills forward at an extremely rapid rate, and at a fraction of the historic cost per grade level achievement. If it can be done, and we are sure we can do it, it should be widely recognized as an astonishing breakthrough in the educational process.

Partial payments will be required on the last day of each month of operations equivalent to approximately 10% of the funds set aside for center operation payments. Ninety days after the first payment, about four months after initiation of operations, an adjustment will be made based on tests to increase or reduce payments as indicated in subsequent monthly periods.

Students will normally be assigned for study of both math and reading unless a special agreement is arranged. If there is some anomaly in the preassignment grade level score profile, contractor may request a retest before assignment. All tests will be converted into grade level equivalents.

Dorsett Educational Systems, Inc. proposes the purchase of about $_____ of educational materials and equipment, of which about $_____ is produced by this company. The proposed list of materials and equipment is attached, but it should be noted that some prices are approximate, and careful purchasing may result in savings on certain items although increased costs may arise on others. In the event the 400-student program is contracted instead of the 1600-student program, quantities and costs will be approximately double those listed.

An hour of student study will be considered as not less than 55 minutes physically within the Center and available for study of reading and math, including progress tests, but

...ing time. Visitors excluded will be the first 10 days of student attendance at any newly opened center. Complete records of student attendance time will be obtained by a semiautomatic system. Study time will be charged against the Center even though students may be engaged in reinforcing preferred contingency activities.

In order to achieve the rapid learning which is planned it is essential that students be rarely distracted from the intense program of study in the Centers. For this reason it will be necessary to require that any administrative delay or interruption in a student's work in the Center will be cause for cancelling the entire time charge for that study period. The physical proximity to the school will be desirable as a student benefit but administrators should act as if the student had been physically bussed across town. It can hardly be emphasized too strongly that it is essential that student attention be focused on the learning task, and that students be removed in atmosphere, if not in distance, from surroundings associated with habits of inattention and academic defeat. Entrance into the learning center, which will be preferred to be a large mobile-home type structure, is intended to approximate a trip "Through the Looking Glass" into an entirely different milieu. If visitors to the RLC become excessive, i.e., if they go beyond a nominal 2 to 3 per week, we will propose a substantial extra allowance for staff time and study interference.

It is anticipated that of the funds available for contractor disposition ($180,000 to $400,000) about _____% may be required for purchase of equipment, materials, and programs, about _____% for direct salaries of staff, about _____% for overhead, special furniture and facilities, travel, general and administrative expense, and about _____% each for contingencies, taxes, and profit. Unless there is a combination of favorable factors unusual in a novel undertaking, the latter categories will probably not be covered. An estimated $100,000 to $200,000 of company funds will be devoted to development and improvement of learning materials and techniques specific to Texarkana.

It is estimated that of the materials and equipment recommended for purchase by the contractor for the program, Dorsett Educational Systems, Inc. manufactures somewhat less than half, especially if special carrel-type tables and certain other facilities are considered. In reference to the request for quotation, however, Dorsett agrees to the lease of its machines at its low standard advertised rate of $_____ per month, exclusive of maintenance costs which will be supplied by Dorsett if it is awarded the contract. Otherwise, at present a $_____ per month service contract is required. The M86 sells for $_____ to institutions.

The 20-student Centers will require 12 upholstered swivel armchairs, tables, carpet, air conditioners, drapes, desks, sofa, book cases and other items, with total cost estimated at $_____ for the three smaller Centers, and $_____ for the larger one. Installation of carpet, drapes, air conditioners and refurnishing will not be required for those schools where the Center is located in a mobile facility. A $_____ monthly rental allowance will be made for such facilities.

Staff Training

We do not expect to hire four center managers from the Texarkana area. We are hopeful of obtaining staff with a teaching or counseling background, but we do not consider this essential to the success of the project. In past programs of a similar nature we have more than once trained paraprofessionals with only high-school educations to administer fairly complex learning systems.

Upon award of the contract, Dorsett will immediately conduct an intensive one-week training program in Texarkana, perhaps in the W. T. Daniels school. This program will be conducted by Dr. James L. Evans with the personal assistance of the president of the parent company, Mr. L. G. Dorsett. The training period will consist of ten discrete blocks of subject matter which will be covered as shown in Figure 3. We expect to use many of our consultants as resource persons in their fields during this training session, e.g., Homme, Kamerman, Harless, Gillis, Regal, and if possible, B. F. Skinner. We will also invite and actively encourage as many as possible of the Texarkana school faculty and school consultants to attend this program.

In addition to the formal training program described above, there will of course be site training conducted by the RLC director and the assistant director. A sizeable professional library will be issued, as will comprehensive bibliographic material in the several disciplines built into the RLC design. To further assure that our Center managers take full advantage of this unique opportunity for professional growth in this Phase I program, we will devise some reward system that will permit them to benefit from their efforts. We expect this to be in a form which will not be incompatible with the expansion of the Rapid Learning Center system throughout typical school districts.

4. Management and Logistical Plan

Many well-intentioned attempts to individualize instruction have foundered simply because the teacher is unable to keep track of what each student is doing in a self-paced, multiple-medium system. From the disadvantaged student's point of view, the frustration of conventional classroom instruction is probably preferable to the frustration of an individualized instruction system in which the teacher can't even be sure what each student is working on, or what to hand out next.

The student, particularly the disadvantaged student, cannot be left to his own devices to find his way through a relatively complex instructional system. An easily-administered system for individualizing motivation as well as instruction is absolutely critical. Our staff has developed and operated several such systems in the past, and sees no particular difficulty in applying these proven techniques to the Texarkana project.

Upon assignment to the RLC, each student will be issued a laminated identification card (to be called something like a "Passport to Rapid Learning") containing his name, photograph, and a pre-punched I.D. number. Each unit of instructional material will be provided with pre-punched and color-coded IBM cards (e. g., red for reading, green for math, etc.) As a student is issued a unit of instruction, he will also be given the appropriate card, and his I. D. number will be punched into it. Thus, each student will at all times have a uniquely-identified card in his possession, to be displayed visibly at his study station, which will enable our learning manager to remain aware of all activities that are in process, and of everything which should be going on in the RLC. The cards will also provide for entries to record time spent on the unit, progress check scores, and other relevant data.

As units are completed, the performance data will be sent in and stored in IBM card form in the central RLC. From there, the data will go to a GE time-sharing computer. Weekly or daily reports may be prepared and printed on a computer terminal in the central RLC. Further, the master file may be interrogated at any time for a complete record of any individual student's progress. As soon as possible, we plan to use the recently announced IBM System 3 computer which we have ordered instead of the GE Time-Sharing system. Even though the first delivery of this system won't be made until early 1970, we have been familiar with it for over a year, since our EVCO division was selected by IBM to write the programed instruction manual for customer education on System 3.

It should be noted that the presence of computer-compatible equipment in the RLC will have a number of useful side-effects. For example, more-advanced math can be taught to the higher-achiev...

peers of our RLC population within the RLC framework, thus helping to eliminate any stigma attached to RLC attendance. It is even possible that we can interest some of these students in learning something about computer programming languages such as BASIC, FORTRAN, COBOL, or PL/1. In any event, we plan experimentally to offer advanced course material in college-level statistics on the M86 for honor students at no cost to the school.

3. Evaluation

a. System Evaluation

It would appear that, in the final analysis, an evaluation of a dropout prevention project could simply take the form of a head-count; i. e. what is the dropout rate of students exposed to the RLC's vs. the rate of a comparable group not attending it?

We confidently expect to demonstrate a highly effective instructional system, and can predict with some confidence that other communities will wish to replicate it. Accordingly, we are proposing a relatively sophisticated experimental design to be conducted entirely at our expense which will capture essential data and enable us to prepare interim and final reports which will not only answer all pertinent questions which can be asked about the developmental, operational, and demonstrational phases of the project, but will also provide predictive data for continuation and expansion purposes.

For example we will provide correlation data on entry ability and entry achievement, entry ability and achievement gain, entry ability and time in-center, and time-in-center and gain. We also expect to provide statistics on the basic achievement testing instruments used in the project and will analyze their relative utility in measuring that achievement which correlates most highly with the desired behavior of staying in school. These instruments will be the Iowa Test of Basic Skills, Iowa Test of Educational Development, and the SRA Achievement series. See Part I, B 6 for a fuller discussion of achievement tests.

We would like to emphasize that our data acquisition will be adequate enough so that at the completion of the project we will be able to answer the kind of questions that neither we nor the project management have thought of yet. In other federally-funded projects which we have conducted in the field of educational research, we have consistently demonstrated our ability to satisfy the most demanding requirements for statistical data treatment and quality control.

b. Research Design

Ideally, from the standpoint of elegant experimental design, we would make a random selection of 150 students from the population of 1600 identified as potential dropouts. If this population mean did in fact meet the specified characteristics of "average or above average intelligence" (which we will tentatively define as an Ability-Quotient score of 100 or more on the SRA Test of Educational Ability) it would enable us to propose a standard cost for one grade-level achievement, without complicating the equation with any sort of a sliding-scale.

We realize, however, that there are both social and political factors involved in the project, which will probably make it desirable for the Project Manager to assign an extra number of below-average students to the project at the outset.

Therefore, we would like to propose a design in which 50 students of the first 150 in Phase I were assigned by the Project Manager, randomly chosen out of a group of 100 critical cases designated by their teachers, and that the remaining 100 students in Phase I be chosen at random from the remaining total 1500 underachieving student population, as discussed previously.

This randomly-chosen sample of 100 would then be compared with another randomly-chosen group of 100 of the underachieving students not attending the RLC, to test the hypothesis that the RLC does in fact produce statistically significant achievement.

c. Evaluation of System by Students

In addition to the statistical data described above, we intend to obtain subjective data through the use of student questionnaires. (Sample question: Do you think you are less likely to drop out of school now that you've gained two grade levels in the Rapid Learning Center?)

We will set up a system for eliciting student evaluation of overall program, individual materials, and our staff. We also expect to set up suggestion boxes and reward useful suggestions with the same type of reinforcers used in the contingency-management system.

d. Item-Analysis

Supplementing these evaluative procedures, we expect to sample the quality of individual course units with a few M86s equipped with cumulative error counters which can be used for item-analysis purposes. Computer analysis of unit test cards will provide item-analysis of unit test items.

e. Outside Evaluation

And finally, we are aware of and fully support the planning for an independent outside evaluation, for example, through the University of Arkansas' testing service. We will cooperate fully with whatever agency is designated for this purpose by the project management. There has probably never been a school-related project in which there has been such a high monetary premium placed on achievement, as measured by admittedly fallible instruments. Obviously, there could be an inherent danger of "teaching to the test".

We would like to give our unequivocal assurance that we intend to provide our students with far more than the ability to pass one or all of the national tests being used in Texarkana. We expect also to improve study skills, communication skills, attitude toward learning, job goals, and all other possible factors which could conceivably produce fewer dropouts.

We have clearly in mind that this is a dropout prevention project and have directed all our long-range planning to that end. We would in fact suggest future research into a type of contract in which the contractor is further rewarded or penalized on the basis of his students actually staying in school to graduation.

We use the term "research" advisedly in the above context, since we quite definitely consider the Texarkana project to be an example of applied educational research. It is proposed to be considerably more rigorous research than that usually proceeding from laboratory type schools in that it will be carried out in an environment which includes all the variables operating in the typical "real-world" school system. As such, we hope and expect it to be widely replicated, which it certainly will not be if the target population merely passes a few tests and then proceeds to go right ahead and drop out at predicted rates.

f. Disassignment

The Request for Proposal also solicits suggestions on disassignment procedures. We now anticipate three basic types of disassignment, as follows:

1. For non-academic reasons, such as family moves, sickness, and so on. We propose that we simply be paid at a flat rate per hour for time these students spend in the RLC, equal to the average for other students.
2. For disciplinary reasons. As recommended by the branch RLC manager, agreed to by our project director, and ratified by the Project Manager, Dorsett will receive only the average flat rate.

3. For a reduction in achievement rate. It should be noted that this disassignment could be at either end of the achievement scale, i.e. as a "graduation" indicator for high achievers and as an indicator that the RLC experience is not helping certain underachievers. Our ongoing evaluation data will enable us to show the Project Manager a graphic picture of student progress to assist him in approving the disassignment decision. Figure 4 shows some hypothetical examples. We would simply be paid according to the basic formula for grade-levels achieved, with zero compensation if there is no grade level increase.

Student progress through the RLC will be monitored by the Project Director and each manager on a weekly basis. Upon a recommendation by the manager that an RLC student be reassigned to the regular school schedule, we propose that the manager and Project Director should meet with the student, and the student's principal and counsellor to acquaint them with progress made and residual problems remaining. One important function of such a meeting will be to reassure the student that the school staff is on his side, as he will have become convinced the RLC staff is, and that there are people who will help him keep from getting lost in the system again. Upon reassignment to the school we plan to award a handsome "certificate of achievement".

It should be remembered that the student's day to day academic involvement will center around his two hour experience in the Rapid Learning Center and four hours of traditional classroom activities. In order to diminish the possibility of his learning experiences in the RLC's becoming completely isolated from his regular classroom experience, the following procedures will be followed to provide articulation between the two programs:

1. A paid workshop of one day will be provided by the contractor to acquaint teachers and administrative personnel with the objectives, function, and operation of the Rapid Learning Center concept.
2. The Rapid Learning Center Director will be in constant communication with the teachers of those students who are assigned to the RLC to suggest and work cooperatively in developing meaningful learning activities in the science and social studies areas, to reinforce math and reading skills emphasized in the RLC.
3. The teachers whose students are involved in the RLC program will be asked periodically to suggest additional activities or materials which could be added to the RLC.
4. The instructional staff in each of the four schools will be encouraged to use and become familiar with the materials, hardware, and software in the RLC's.

6. The Relationship of Achievement Tests to the Instructional Objectives of Texarkana Schools.

The nature of the measuring instruments used to determine achievement gain by the students assigned to the Rapid Learning Centers will obviously be extremely important, from both the academic and the business points of view.

Accordingly, it seems appropriate to call into question the three different achievement tests now in use in the three Texarkana school districts. The question which must be asked, of course, is whether these instruments do in fact adequately measure achievement of the instructional objectives of the Texarkana schools.

After a very careful analysis of these three tests by our staff, our tentative conclusion is that in some important respects they do not.

Our primary concern is in the reading area, where we feel the cards will be stacked against our RLC population, or any other disadvantaged population for that matter, by test questions which measure information and vocabulary which at best is culturally biased, and at worst tests over subject matter completely irrelevant to the instructional objectives of any school system in the country.

An example of one of the test items which we would characterize as culturally-biased appears at Appendix 6. Clearly, a correct answer to Question No. 92 absolutely depends on the child having been previously exposed to the old English nursery rhyme "Jack Be Nimble". We feel this is a considerable assumption on the part of the test author, unless the test population is presumed to be white Anglo-Saxon middle-class.

An example of testing over irrelevant subject matter is included as Appendix 7. In order to comprehend the meaning of this passage quickly in this timed test, the student would ideally have a pilot's license and a working familiarity with turn-of-the-century idiomatic locutions no longer a very vital part of working English. Further, it would be a considerable help if he were aware of the fact that test authors have idiosyncrasies just like everyone else, and thus should not spend very much time puzzling over the meaning of "glip", a word not to be found even in Webster's 3rd International.

We would agree with the test publishers who warn of the dangers inherent in "teaching to the test" but for different reasons than theirs. They are most concerned about getting their carefully-normalized data skewed out of shape.

We are more concerned about not wasting any of the student's time, or ours, in teaching him material which is of little value to him for any purpose other than passing those achievement tests which are imposed.

The problem is particularly acute in the area of reading vocabulary. We could quite easily guarantee 12th grade achievement for all our students in this area by the simple expedient of teaching them only the 75, 92, or 114 words found in the achievement tests in use in Texarkana. (See Figure 5)

Another approach might be to teach them all the words on all three tests. This would be a total of 277 words, not 281, since as shown in Figure 6 there are four words common to one or more tests. (In this respect, one might believe that the simple working of statistical probability would produce a greater commonality among measuring instruments purported to be measuring the same thing.)

We would of course be the first to hold that this approach would be dishonest professionally, scientifically, intellectually, ethically, and educationally.

Educationally, for the reason that only 25% of these 277 words are included in the Thorndike-Lorge list of the first 4000 words important to a good working vocabulary.

We think that either of the following two approaches would be a sound method of determining the working vocabulary most useful to the RLC population in the real world, and then teaching that vocabulary.

APPROACH NO. 1

(How to Make It, But Just Barely)

In this approach, Dorsett would perform a vocabulary analysis of that reading material most crucial to the students' future ability to obtain an income, whether from gainful employment or from government welfare, retirement or unemployment sources. These words would be drawn from:

1. Texarkana Gazette want ads
2. Application forms of the nine largest employers in Texarkana, plus the arsenal and depot.
3. W-2 Forms
4. IRS Form 1040-A
5. Unemployment Forms
6. Welfare Forms

APPROACH NO. 2

(How to Acquire the Same Vocabulary as Those Who Will Make It)

In this approach, we would randomly select ten Texarkana high school students from the population not considered to be potential dropouts, i.e., higher-achieving peers of the RLC population. We would then employ these students for an intensive two-week period of testing and observation. They would be divided into several groups to check their knowledge of an 8000-word list derived from the middle-frequency range of the Thorndike-Lorge list. At the end of this period, we would be equipped with an empirically-based list of the 4,000 words which constitute the working vocabulary correlating most closely with nominal success in the Texarkana schools, perhaps only half of which the Center assignees would have available.

In practice, after consulting with the Project Manager and school staff we would expect to develop some kind of synthesis of the above two approaches, and then teach that vocabulary which results.

But, since we are not going to attempt merely to teach the 277 words on the three tests in use, or even 554 words counting parallel forms, Dorsett will not propose tying its contractual payments solely to the vocabulary portion of the tests, but instead are proposing that we be paid on the basis of averaging the grade level on the Reading Comprehension portion with the vocabulary grade-level placement obtained from the respective vocabulary test.

In the mathematics area, we propose that the contract be pegged to the simple average of the Computations and Applications (or Mathematical Reasoning) portions of the tests. In the case of the ITED, we will use SRA's "Growth Factor" data to convert from standard scores to grade-level equivalents.

As the base line from which to calculate achievement gain we will propose using the last national tests administered by the respective schools, corrected for intervening maturation if considered necessary by the project staff and or outside evaluation team. We feel this would be preferable to administering a new test battery this fall.

We would like to make one reservation about computing individual gain from the nationally-normalized instruments, however. Since these tests are not corrected for guessing it is quite possible for any given student to produce a score indicating mid-4th to mid 5th achievement by pure chance. When our diagnostics point toward the likelihood that this has occurred, our project director will request a re-test and if indicated, the establishment of a new pre-test grade level.

We would also like to mention that we have some reservations about the contemplated six-month retention testing. Even the best students have learned by seventh grade that the system requires only that they be able to retain the desired answers long enough to pass whatever exam is imposed and then forget them.[5] Why should we ask more of the RLC students than we do of the high-achievers? Perhaps a better measure of program success would be the simple observation that a given student is *available* for testing six months after RLC-completion, i.e., he has not dropped out, which is after all the essential purpose of the project.

As noted earlier, we do not consider any one of the three tests in use to be clearly superior to the others, so we propose leaving the tests now in use in the three school districts unchanged. This will facilitate correlation analyses with previous years, and will also make possible a cross-correlation among the three instruments which could suggest superior approaches for succeeding years.[6]

[5] See e.g., Lee S. Cronbach, "Text Materials in Modern Education," John Hopkin University Press, 1954.

[6] For example, the Stanford Achievement Test Battery, the Iowa Tests of Basic Skills, and the California Achievement Tests all have separate tests of reading vocabulary and reading comprehension, which would permit correlation analyses of the relative contributions of each to overall reading ability.

C. SCHEDULE OF PERFORMANCE

1. Start-up Time

We feel that our firm is in a unique position to effect the fastest possible start-up time in the Texarkana project. As noted previously our overall approach will make extensive use of an educational tool we have had under development for a number of years, the audio-visual teaching machine. The machine we will use in Texarkana, the M86, has been in quantity production since early this year, and the fifty units planned for the project can be delivered in a matter of a few days after award.

In addition, our EVCO division is probably more familiar with the Job Corps reading and math system, to be used for supplementary instruction in the early phases of the project, than any other private firm in the country. Accordingly, we will be able to implement this system as rapidly as the materials can be delivered from General Services Administration warehouses.

For example, a letter of intent on August 25 could result in preliminary RLC activation by September 15. This is based on the use of only Job Corps materials and our own materials. Since we are specifying materials from several other sources, however, it is quite possible that it might take another 30/60 days to get all desired materials into the RLCs.

2. Time per day

As noted earlier, our approach does not contemplate transporting students to a central location. Accordingly, we propose coordinating our RLC schedule with the schools' bell schedule. We will, of course, be dividing the individual students' study times into smaller increments based on their capacity for sustained attention in accordance with our previously-described contingency-management techniques ("The periods into which the school day is broken measure the limits of successful aversive control rather than the capacity for sustained attention").

Our present thinking involves RLC attendance for two hours per day for each student. At maximum capacity, then, our RLCs would be able to handle up to 100 students at a time for three 2-hour periods per day, thereby permitting an expansion from 150 to 300 students with no further necessary addition to physical facilities.

Then we would also compare the 50 "critical-case" students with the other 50 of the 100 critical cases, as well as the 100 other assignees. One of the hypotheses that we can then test is whether entry ability level or entry reading level is a better predictor of success in the RLC environment, and determine the correlation between them.

D. SUB-CONTRACTING

No sub-contractors are proposed. Staff of wholly-owned subsidiaries and controlled non-profit affiliates are considered Dorsett staff. Occasional use of consultants who are on the staff of other firms or agencies is anticipated, and their resumes are submitted in Appendix I of this proposal.

A consortium approach is not being proposed for several reasons. In the first place, our EVCO division has the kind of national reputation for educational innovation that has resulted in many of the firms who will probably submit proposals on this project already having come to us for consulting services in the field of programed instruction, teaching machines, and computer-assisted instruction over the past few years. As a result we are intimately familiar with the problems major corporations have with consortium approaches, due to personnel changes, shifting levels of management commitment, disagreements on philosophy and policy, and so on. Further, at least at first, the size of our Texarkana staff will be relatively small; under these circumstances we see no reason to ask the Project Manager to deal with employees of two or more companies. Finally, we have available to us the consulting services of many of the foremost people in the country in the various disciplines which will be involved in this project (see Part II).

E. COPYRIGHTS AND PATENTS

Patent rights on equipment which have been developed or disclosed to Dorsett's patent attorneys are reserved. Copyrights on existing or developmental programs prior to contract date will be reserved, as will copyrights on material developed with Dorsett funds. Rights to material developed for the Texarkana Project by specifically assigned funds will be granted to the Texarkana schools or released to the public domain. It is understood that publication right on aspects of the project will normally be at the approval of the Executive Committee.

PART II. STAFF AND CORPORATE EXPERIENCE

A. GENERAL

Several members of the staff we have assembled for the Texarkana project have worked on projects as nearly similar to the proposed one as have heretofore occurred. It is understood and agreed that all staff assigned will be subject to the approval of the Executive Committee.

As noted earlier, Dorsett's EVCO division has a considerable experience, and national reputation, in designing and implementing instructional systems and materials for disadvantaged populations. Our programing staff, directed by Dr. James L. Evans, has devoted a large percentage of its efforts in recent years to work in the field of programed instruction, with emphasis on improving the techniques of individualizing instruction for urban ghetto, Job Corps, Bureau of Indian Affairs, and other such populations. (Please refer to Appendix 9 for a completely unsolicited testimonial to Dr. Evans' reputation in this area.)

Some of our more recent projects in this field include:

1. A teaching machine study for the Job Corps, in which the use of two different types of teaching machines were compared to the use of a programed textbook format. For this project, we developed a more advanced math program than that being used in the Job Corps. We are proposing the use of this program in the Texarkana Project.
2. Development of all of the staff training materials (largely in programed instruction format) for use in the Job Corps, to train instructors in the implementation of the reading, math, and vocational education systems. Over 80% of the basic math materials themselves (for the individualized PI programs) were originally developed under [illegible] contract.
3. Design and demonstration of a system to teach basic data-processing to high-school juniors and seniors, for the Bureau of Indian Affairs.
4. A system for completely individualizing instruction at the elementary level, through the use of computer-mediated instruction techniques. (See attachments for a description of the Isleta project.)
5. A major contract (with the McGraw-Hill Book Co.) for the development of an extensive series of early reading materials for the K-2 levels and Head Start projects. These techniques and materials will be directly applicable to the Texarkana project when it is expanded to include Grades 1–6.
6. The development of a programed instruction course in Reading Comprehension intended primarily for disadvantaged populations. [illegible] this program, other than our own company, is [illegible] Learning Corporation.

B. ORGANIZATION FOR PROJECT

[illegible] of Dorsett Educational Systems, Inc. to the proposed [illegible] be complete. Appendix 2 describes the qualifications of the [illegible] would design, direct and control the system and operation of the Rose Learning Centers. The Chairman and President of the parent corporation will spend at least one day in five at the Center. An experienced professional Director and Assistant Director will be present. The principals of EVCO will assist in system design and will be frequent visiting coordinators of operation. A distinguished roster of consultants, many of them who have national reputations in the field of dropout-prevention, will aid the project. The Dorsett programing director will regularly direct program validation operations at Texarkana. It is anticipated that company expenditures for equipment and program improvements directly related to the program will consume expenditures comparable to the contract total itself. It is difficult to conceive of a policy involving more strenuous and concentrated effort from any organization than that which is planned by this company. A measure of the commitment of this company to the development of educational technology may be obtained by noting that in the 12 years that Dorsett Engineers and programmers have been working on media and programs, more than $2 million worth of labor and other costs, if paid at present rates, have been expended. This is several times the present net worth of the company. Moreover, nearly 100 Dorsett staff are presently at work solely on teaching machines (about 35) and programs (about 60), which we understand is more than any other organization.

C. ORGANIZATION FOR PROJECT

In a very real and literal sense, the chairman and president of the parent company, Mr. L. G. Dorsett, will serve as senior project director. He will have the services of Dr. James L. Evans as senior project coordinator, and as chairman of our board of consultants. Mr. C. J. Donnelly, who is an acknowledged expert in the field of teaching machines and computer-assisted instruction, and who has directed three of the EVCO projects discussed earlier, will be the resident director in Texarkana. His assistant will be Mr. Jack Tanner, until recently employed with the Center for the Study of the Unemployed at New York University.

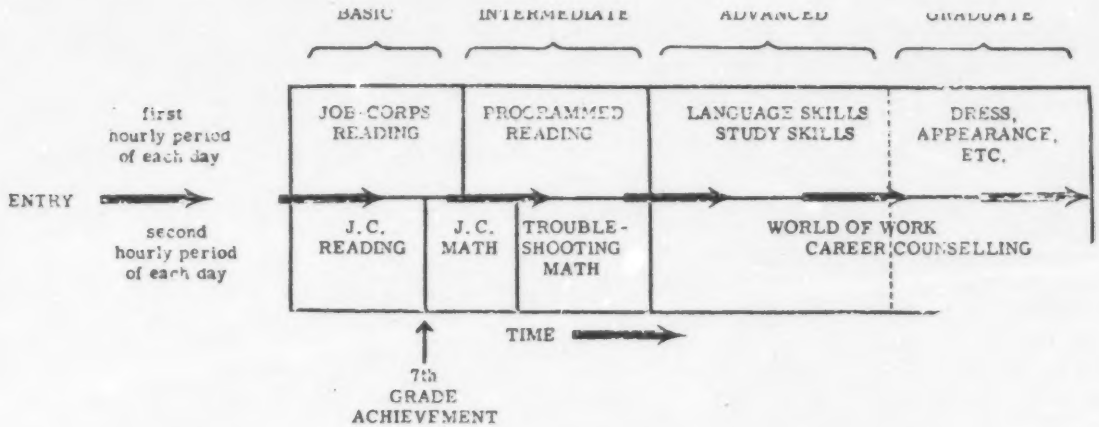
The board of consultants who have agreed to work with us on the Texarkana project at present includes:

1. Dr. Richard First - University of Arkansas
2. Dr. Kent Rice - University of Arkansas
3. Dr. Tom Roberts - Southern Methodist University
4. Dr. Don Reynolds - University of Oklahoma
5. Dr. Gerald Kowitz - University of Oklahoma
6. Dr. J. M. Regal - University of Illinois
7. Dr. Lloyd Homme - Westinghouse Learning Corporation
8. Mr. K. Kamerman - Westinghouse Educational Advancement Centers
9. Mr. James C. Gillis - Quality Education Development
10. Mr. Joseph H. Harless - Harless Associates (formerly with the Draper Correctional Institute)

Other individuals whose advice and consultation we will seek will be Glenn Snider (Oklahoma University), Daniel Schreiber (NEA), Frank Seivers (Office of Education) and B. F. Skinner (Harvard).

The project organization chart is shown in Figure 3.

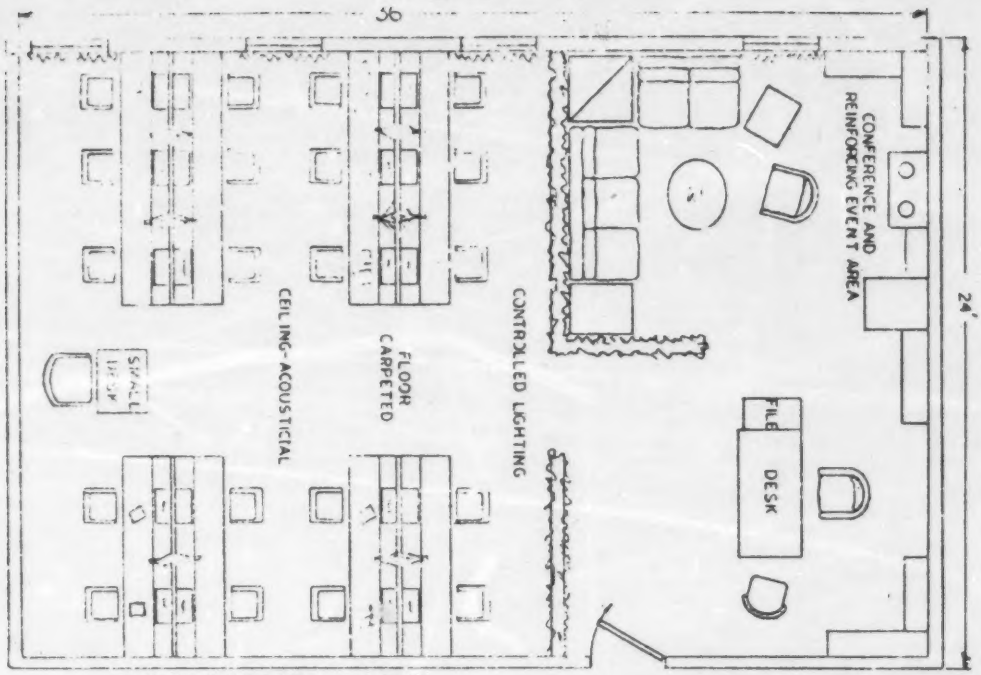
ONE SUGGESTED LAYOUT
FOR A
RAPID LEARNING CENTER



	M	T	W	T	F
AM	Background of Texarkana Project	Training in Job Corps Reading System	Audio-Visual Programmed Instruction	Test and Evaluation	How to Operate An RLC. Policy, Housekeeping, Admin., etc.
PM	Overview of History and Methodology of Programmed Instruction	Training in Job Corps Math System	Contingency Management Seminar	Career and Job Counseling	Case-Study Oriented Workshop

Fig. 3

STAFF TRAINING PROGRAM



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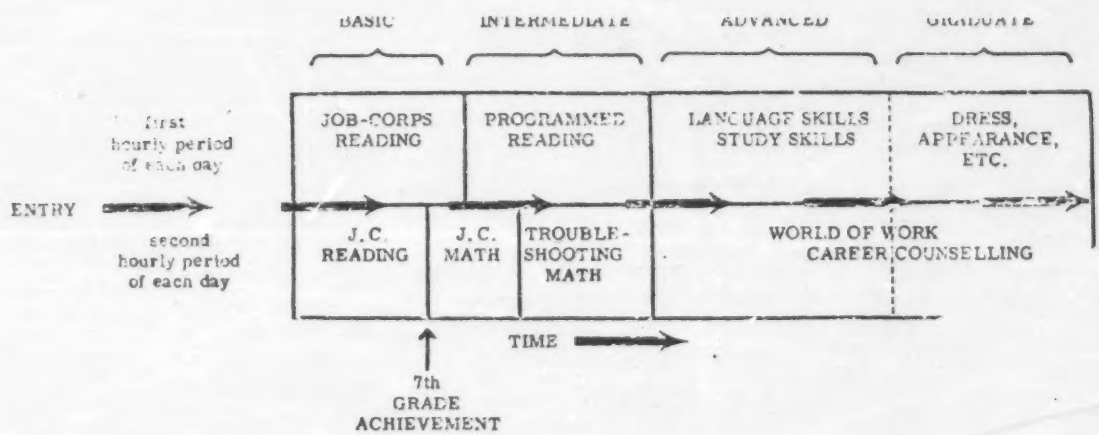

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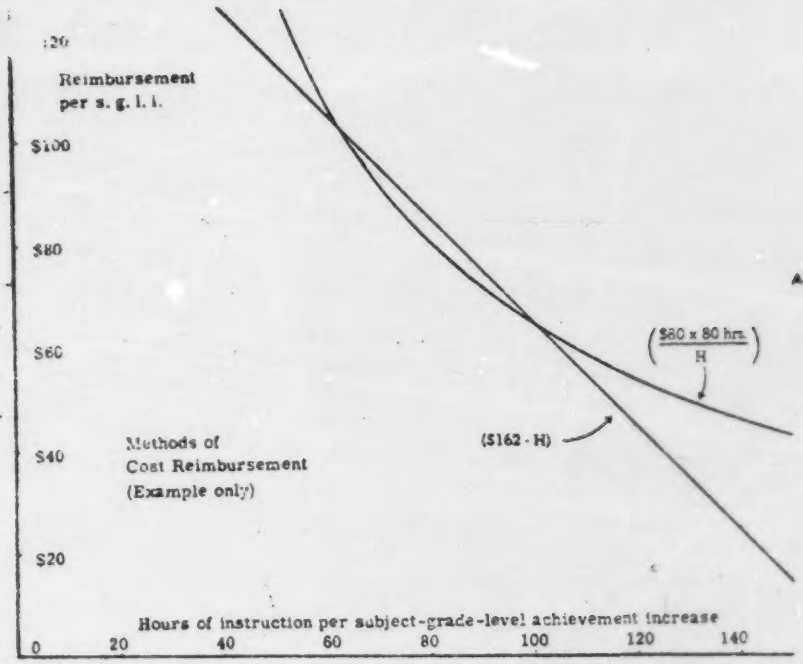
Fig. 3

STAFF TRAINING PROGRAM



METHODS OF COST REIMBURSEMENT

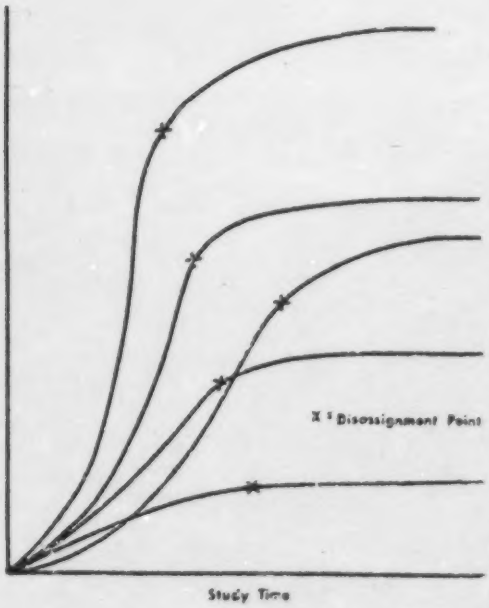
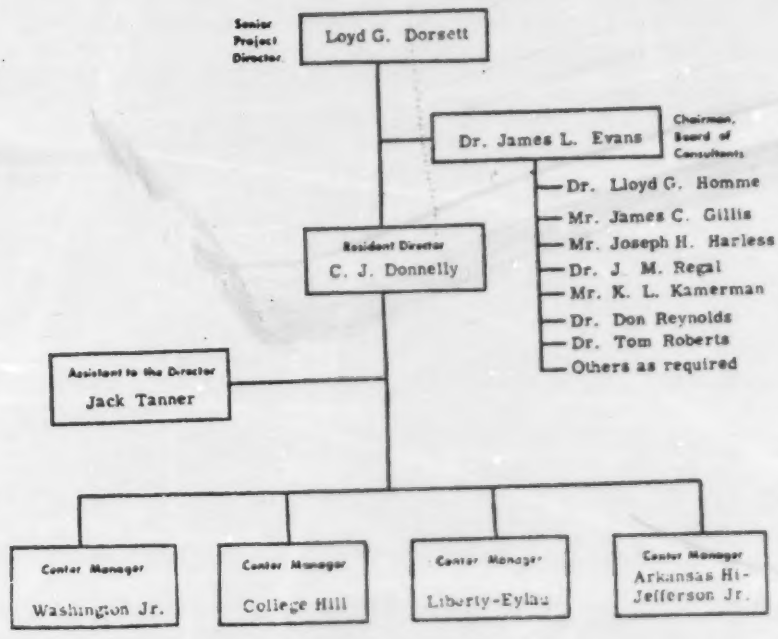


Fig. 4

SOME TYPICAL LEARNING CURVES TO BE ANTICIPATED IN "RAPID LEARNING CENTERS.



SUBCONTRACT BETWEEN THE LEA FOR THE
TEXARKANA DROPOUT PREVENTION PROGRAM AND
DORSETT EDUCATIONAL SYSTEMS, INC.

Purpose

This subcontract is based upon the RFP dated 6-10-69, issued by the LEA, the proposal submitted by Dorsett, and a mutually agreed upon Letter of Intent. It is intended to stipulate the scope of work, responsibilities, and obligations assumed by both parties, but to the extent that further details are required to interpret matters arising under it the above documents are incorporated by reference.

I. Period of Contractual Obligation

The period of contractual obligation begins September 10, 1969 and extends until June 5, 1970.

II. Previous Obligation

The grant terms and conditions of grant # OEG-0-9-130045-3360 Project # 13-0045 between LEA, Texarkana, Arkansas School District # 7 and the U. S. Office of Education are incorporated herein by reference and made a part of this contract.

III. General Scope of Work Assumed by Dorsett

Dorsett agrees:
a. to organize and operate the instructional component of the first phase of the Texarkana Dropout Prevention Program.
b. to provide instruction in basic reading, math and study skills to a minimum of 200 students. The study skills may be measured by inference of the achievement in math and reading areas.
c. to hire and train local personnel, if possible these people will come from the target area, as para-professionals in the operation of the instructional program.
d. to utilize at least 20 teachers and administrators from theparticipating school systems who will work part-time in the instructional program and will facilitate the contemplated transfer of the Dorsett material to the Texarkana Rapid Learning Centers. Their first hand knowledge of the nature and extent of academic problems unique to the Texarkana schools will be useful to the contractor.
e. to operate centers at locations mutually agreeable to the parties.

IV. SELECTION OF STUDENTS

a. All students who participate in this instructional program will have grade level deficiencies, in reading and math, of 2.0 or more as determined by the Iowa Test of Basic Skills or the SRA Tests. Further, all of these students will have no less than the minimum Intelligence Quotient, as determined by Lorge Thorndike and SRA Ability Quotient, of a regularly enrolled student as required by the two school districts, seventy in Texas and seventy-five in Arkansas, by the Project Management Office or its delegated representative.
b. All students who participate in the first phase of this instructional program will come from grades 7-12 in the regular school system.
c. The makeup of the first 200 students will consist of approximately equal numbers of volunteers, students assigned by counselors, and students randomly selected from those with a grade level deficiency of 2.0 or more.
d. The makeup of any group of students beyond the initial 200 will be similar to that of the first 200, or will have characteristics determined by the LEA and stipulated by the reference material. *(RFP, Dorsett's proposal, and the Letter of Intent).

V. Testing

a. The entry status for each student will be determined by the most recent test. The Texarkana Arkansas school system used ITBS Form 3 and the Liberty Eylau school district used SRA Achievement Series Form D. These tests were given the first week of October,1969. In all cases the tests were given on a group basis and the counselors in the individual schools administered the tests. The same conditions will exist for the post-test as was the case in the pre-test.
b. The parties agree that Dorsett will have the option to ask for retesting or adjustment to entry level standing determined by pre-tests where its diagnostic test shows a substantial difference and that the pre-test may have been insensitive to the actual grade level deficiency when the deficiency is 2.0 grade levels or more. Diagnostic test given by Dorsett should be administered under conditions similar to that of the initial pre-test. Further, Dorsett will notify the LEA as to what diagnostic test will be used and will allow observation of the testing by theProject Manager or the Internal Evaluator. The negotiation of the interpretation of these tests will be handled by Dorsett's representative and the Project Manager with the help of the Internal Evaluator. Final determination of whether re-test will be given will rest with the Project Manager.
c. Exit level achievement will be determined by the ITBS or SRA tests administered by a delegate of the LEA.
d. It is the responsibility of the LEA to report in writing the test results for each student to Dorsett. Results of testing conducted by Dorsett will be conveyed to the LEA in the form of written reports to be the basis for each monthly evaluation. While Dorsett may not administer tests comparable to entry or exit, national norm tests; it will continually obtain progress check tests for each subject unit. The number of such tests successfully completed by each assignee and the scores will be included in the Dorsett monthly report.

VI. Attendance of Students

a. Withdrawal from the Dropout Prevention Program may occur under the following circumstances and Dorsett will be paid on the hourly basis.
(1) Students move out of participating school districts.
(2) Student is chronically truant as defined by locally applicable regulations. Regulations being that a student be present 50% of any grade marking period.
(3) Student suffers prolonged period of illness. Same regulations as truancy.
(4) Student is removed from program on the mutual agreement of the LEA and Dorsett. A student will be considered a legitimate withdrawal if he enrolls in the program, participates for a minimum of ten hours of instruction, and withdraws from the program for any of the above reasons. If the student is in the RLC for less than ten hours, no payment will be made to Dorsett.
b. In the event that a student withdraws from the program, the LEA will, whenever possible or practical, fill the empty slot with another student, no later than 30 days before the termination of the grant June 5, 1970) . Low academic performance will not be considered an adequate reason for withdrawal from the program until the parties to this contract mutually agree.

VII. Cost of Mobile Facilities and Refurbishing

a. Dorsett will assume the cost of providing one mobile facility during Phase I of this project to be used as an instructional center at the Texarkana Arkansas High School. Two of the four or more Rapid Learning Centers operated by Dorsett are to be refurbished rooms in existing schools. Two or more of the Rapid Learning Centers may be operated in mobile classrooms provided by Dorsett and for which a monthly rental allowance of $95.00 per mobile classroom will be paid by the project. At any time during the contract period the LEA may purchase these mobile classrooms at Dorsett's actual cost less accumulated rental payments.

VIII. Method of Cost Reimbursement

a. In consideration for services rendered, Dorsett will be compensated on the basis of actual student successful performance, not to exceed $135,000.00 in total and subject to reduction on failure to obtain achievements or performance.

b. The student performance differential is determined by subtracting the entering grade level achievement in math and reading from the exit level. Entry status and exit status are based on the SRA and ITBS tests as weighted on a basis to be determined no later than February 1, 1970. This procedure will be applied to all assignees except withdrawals, and a small number of students, assigned by non-random procedures, to be mutually agreed by the parties to this contract, for whose learning services Dorsett will be reimbursed at the average hourly rate of other students.

c. Dorsett will be compensated on the basis of obtaining one grade level increase per subject area in eighty hours of instructional center study for $80.00, or proportionally for each fraction thereof. For students requiring more or less than 80 hours per subject grade level increase, the payment to Dorsett per subject grade level increase will vary according to the formula $80.00 x 80 hours divided by actual study hours required per subject grade level increase. According to this formula, one grade level increase per subject area in 110 hours of instruction would cost $58.18. Both parties agree that $106.67 for 60 hours represents the upper limit of the cost reimbursement formula and that if over 110 hours of instruction are required, the payment for a grade level increase will be reduced by $1.00 per hour for every hour over 110. This payment schedule will result in no payment to the contractor if 168 or more hours are required for one grade level achievement.

d. Monthly progress payments may be made to Dorsett for reimbursement of not more than an estimated 85% of direct and indirect costs incurred by Dorsett for its' operations, provided further that the payments do not exceed the estimated accruals to Dorsett for grade level gains, based on sampling tests or progress check tests, in the professional judgement of the Project Director. It is noted that repeated testing with the same or similar test instruments used for final audit on student disassignment would contaminate the validity of results, so different tests must be used for interim evaluation.

IX. Availability and Cost of Capital Equipment

a. Dorsett agrees to sell 95 units of the Dorsett M86 Teaching Machines at a unit price of $200.00 for a total of $19,000.00. All equipment will carry standard warranty. In the event that the contractor fails to achieve substantial gains in the program Dorsett will repurchase the equipment at full price

b. During the period of this contract, Dorsett is responsible for the full maintenance and upkeep of the Dorsett manufactured equipment. In accordance to the standard one year warranty, repairs will be made on a 24 hours basis or another M86 machine will take its place. An adequate amount of supplies and parts for the M86 will be available. The training of local personnel for maintenance of the M86 will also be part of the program.

X. Use of Consultants Listed in the Dorsett Proposal

It is understood that all key consultants or persons of similar status and staff members listed in the Contractor Proposal will be used on a working level, including site visits. Deletion or addition of consultants must be mutually agreed upon by both parties. The LEA must be satisfied as to the active participation of those consultants used by the Contractor. Dr. James L. Evans will be an active and frequent contributor to this program.

XI. Availability of Instructional Materials

a. Materials to be used in this instructional program will substantially duplicate that listed in the Dorsett Proposal.
b. Dorsett will provide materials for medium and high achieving students and will have such material available at the instructional centers for testing with a sample population no later than April 30, 1970.

XII. Community and Public Relations

a. The LEA is responsible for informing parents, instructional center employees, and students about testing procedures, scheduling, dismissal, and progress reports.
b. All official press releases concerning this program should originate from LEA.

XIII Review of Contract

The parties agree that from time to time the LEA may review progress on the program and ask for contract amendments if reasonably anticipated progress is not being obtained.

XIV. Applicable Statutes

In case of conflict arising under this contract the laws of the State of Arkansas will prevail. Unless otherwise stipulated, parties will be bound by the request for proposal and the proposal of the Contractor.

XV. Officials Not to Benefit

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

XVI. Covenant Against Contingent Fees

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business . For breach or violation of this warranty the Fiscal Agent shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

XVII. Equal Employment Opportunity

(Section 202, Executive Order 11246, September 24, 1965, 30 FR 11269)

"During the performance of this contract, the contractor agrees as follows:"

"(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion,or transfer, recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

"(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed color, or national origin.

"(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

"(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

"(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

"(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order no. 11246 of September 24,1965 and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

"(7) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interest of the United States."

XVIII. Certification of Non-Segregated Facilities

The contractor or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control, where segregated facilities are maintained. The contractor or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees

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which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000.00 which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certifications in his files; and that he will forward the following notice such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

XIX. Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities

A Certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000.00 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

Note: The penalty for making false statements in offers in prescribed in 18 U.S.C 1001.

12/4/69

Edward D. Trice, Fiscal Agent

December 2, 1969

Loyd Dorsett, President
Dorsett Educational Systems, Inc.

Appendix C

ILLUSTRATIVE CONTRACTS

AGREEMENT

This Agreement made this _____ day of September, 1970, between the Board of Education of Grand Rapids, Michigan, hereinafter referred to as the District, and Combined Motivation Education Systems, Inc., hereinafter referred to as the Company.

WHEREAS, the District has been duly empowered to enter into this contract with the Company to provide reading and math improvement programs at the South Middle School, the school year commencing on the 26th day of August, 1970 and terminating on the 11th day of June, 1971; and

WHEREAS, the District is presently controlling and operating the South Middle School and is able to, and shall, furnish sufficient space within such school including all utilities, maintenance and janitorial services for the conduct of classes and other instructional services to be conducted by the Company as provided herein;

NOW, THEREFORE, in consideration of the several agreements herein contained, the District and the Company hereby agree as follows:

I. TEACHERS

A. The District shall provide a Program Director, four (4) qualified teachers and ten para-professionals who shall be assigned to the Combined Motivation Education Program.

1. The District shall have the responsibility for payment of all normal fringe benefits as well as the issue of salary checks. Said teachers and para-professionals are not now, nor will they be, loaned or borrowed employees but, in all respects, shall be employees of the District, and nothing contained herein shall be construed so as to make said teachers or para-professionals "loaned" or "borrowed" employees of the Company. Costs incurred by the District will be deducted from the payment to the Company as indicated in V.A.

2. If, at any time during the term of this contract, any or all of the teachers and/or para-professionals supplied by the District shall request, or be requested by the Company or the District, to discontinue their services under this Agreement, the District shall immediately supply the Company with a replacement for such teacher(s) or para-professional(s).

3. In the event the District shall desire the removal of a teacher, Program Manager, or para-professional from the Company's program, it shall first consult with the Company.

B. The Company shall provide all necessary instructional material and assistance for and in the conduct of its Combined Motivation Education Program, hereinafter referred to as CMEP, for the improvement of reading and mathematical levels of students placed in said program at the South Middle School.

II. STUDENT SELECTION. The District shall select a sufficient number of students to provide the equivalent of 1200 student units* who shall be placed in the CMEP to be conducted by the Company.

A. Students shall be initially selected for this program by the District on the basis of a mutually agreed upon Standardized Achievement Test.

1. Those students selected on this basis shall be the ones performing at the lowest level on that test, so that the total number of students shall comprise all those students at the lowest level.

B. The Company, within the first 30 calendar days after assignment to the CMEP, shall have the right on the basis of emotional or mental reasons unrelated to the standardized test results to refuse up to, and including, ten per cent (10%) of the students selected and, in the event this right is exercised, the District shall select replacements from the remaining students, excluding those so refused within five (5) school days of the date of the refusal.

1. The District shall have the right to reject the Company's refusal to accept such students up to one-half (1/2) of the above ten per cent (10%). In this event, the Company shall be paid for such students on the basis of the mean gain of CMEP students exclusive of those students refused by the Company and rejected by the District.

2. No payment will be made for rejected students.

C. In special cases, a student may be dropped or added to the CMEP upon mutual agreement of the Principal and the Program Director.

III. FACILITIES. The District shall provide the equipment and facilities as set out as start-up costs in Appendixes A and B to the Proposal dated July, 1970, at South Middle School during the term of this Agreement as its sole cost and expense, which equipment and facilities shall remain the property of the District.

IV. PROGRAM. The Company shall conduct its reading and math remediation program known as the CMEP at the school site during the term of the school year commencing August 26, 1970 and terminating June 11, 1971.

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* One student unit equals one student enrolled in one subject for one class period each day for one school year.

A. The Company shall train four (4) teachers, as supplied by the District under the provisions of Article I, who shall be responsible for the conduct of teaching the program. Training shall be conducted at the school site beginning August 17, 1970 and ending August 28, 1970.

B. The Company shall use its own methods and procedures of instruction in the conduct of its CMEP.

C. The Company shall evaluate and test all students in its classes at least once every thirty (30) school day period and shall maintain daily progress records on each individual student at company expense, all of which shall be made available to the District upon request at the office of the Program Director.

D. The Company shall provide theDistrict with cost effectiveness information on the instructional program.

E. The Company shall assume all costs and responsibilities for the training of the CMEP management program.

F. The Company shall establish with South Middle School a schedule and program of transition of the system to the District.

G. The Company shall bear all direct operational costs of the program, including salaries, consumable materials, public relations, recor d keeping, reporting, management and staff development.

H. The Company shall conduct necessary programs to communicate the CMEP to the community, parents and school people.

V. SCHEDULE OF FEES

A. The District shall pay the Company the sum of $6.00 per student for each one-tenth (1/10) of Grade Level Increase in each student's mathematical ability and $6.00 per student for each one-tenth (1/10) of Grade Level Increase for each student's reading ability, figured to the nearest tenth achieved by each of the students in the CMEP, but, in no event shall said sum exceed $164,000.00 less salaries paid teachers, para-professionals and Program Director, and fringe benefits paid to Program Director only.

Fringe benefits for teaching staff but not deducted from price

1. The base (or starting point) for the grade level of each of the students for mathematics and reading shall be determined by his individual performance on the mutually agreed upon standardized test, administered at the commencement of the school year.

   a. For the purposes of determining the true base level of those students who fail to meet "chance level" (i.e. frequency expectancy = number of distra ctions, multiplied by the number of items on the test), those students will be retested at the next lower level test and that shall be the student's base grade level.

2. Grade Level Increase (Grade Score Increase) in mathematics and reading, shall be determined at the end of instruction at which time the mutually agreed upon standardized test shall be administered, except for those students who initially failed to meet "chance level," and they shall be tested on the basis of the next lower level test.

3. If, after the grading of the test at the end of the instruction period, any amounts shall be payable to the Company as provided in A above, the total amount so determined shall be paid by the District to the Company within ten (10) days of the receipt of such computations from the Company and certification by a mutually agreed upon third party evaluation specialist, less any amounts paid by the District under Article I, but, in no event shall such total amount exceed the sum of $164,000.00.

4. In addition to all other payments, the District agrees to pay according to the following schedule and pursuant to the following conditions:

   a. If the District shall fail to supply students to the Company as set out in Article II, the District shall pay an amount equal to the payment based upon the mean Grade Level Increase per day per student to be computed at the end of the 180 day period as set out in Article V, Section A, Paragraph 3 to the Company for each such student for every school day which the District failed to supply such student, not including five school days allotted herein to the District for the supplying of such student.

   b. If any student fails to attend the classes of CMEP for a total in excess of ten (10) days during the course of the 180 day school year, the District shall pay the Company an amount equal to one-half (1/2) of the mean rate payment based upon the mean Grade Level Increase per day per student to be computed at the end of the 180 day period, as set out in Article V, Section A, Paragraph 3, for each such student per each day in excess of the ten (10) days which he failed to attend the classes.

   c. In no event shall the payments under this paragraph, when added to the payments under Section A of this Article, exceed $164,000.00.

B. Administration of pre- and post-tests shall be the responsibility of the District; only the District, the Company or a mutually agreed third party shall test or supervise the giving of such tests.

C. It is agreed that neither the District nor the Company will be liable for loss, damage, detention or delay, resulting from causes beyong their reasonable control.

D. In the event this Agreement cannot be performed because of strikes, lockouts, acts of God or any other cause not the fault of the Company, the District shall pay to the Company the sums of sixty-seven cents($.67) per student unit per day for each day that the Company did perform under this Agreement.

IN WITNESS WHEREOF, the parties have set their hands the day and year above written.

GRAND RAPIDS PUBLIC SCHOOLS

By: _____

_____

COMBINED MOTIVATION EDUCATION SYSTEMS, INC.

By: _____

_____

APPENDIX B

AGREEMENT

This Agreement, dated 9 July 1970 is between (1) Gilroy Unified School District (SCHOOL), 7663 Church Street, Gilroy, California 45020, and (2) Westinghouse Learning Corporation (WLC) a Delaware Corporation with headquarters at 100 Park Avenue, New York, New York 10017.

It contains all the terms and conditions under which WLC will provide and the SCHOOL will purchase and use, the WLC Learning Center Program (PROGRAM) during the 1970-71 school year.

1. Background and Purpose

The PROGRAM has been developed by a team of psychologists, educators and systems managers during a period of several years of research and development effort. It is a program for the systematic and effective management of learning, valuable for remedial, regular, and enrichment purposes, completely individualized, and selfpaced. In operation, it has five major elements or phases:

--Diagnosis. The student's strengths and needs are identified through a variety of tests designed to establish what he already knows and what he needs to learn.

--Prescription. A course of study is planned for each student, specially designed to take advantage of his present achievements and to concentrate on the areas of his greatest need.

--Learning Materials. Each unit in the course of studies refers the student to learning materials that have been selected as being most effective or efficient for him to use in learning the content of that unit.

--Motivation. Each student participates in a system for planning and scheduling his study program; in this way, he learns to assume increasing responsibility for the objectives and the management of his own work, of his study program, and this in turn motivates him to accomplish it successfully and well.

--Evaluation. Progress tests measure the student's achievement in reaching his learning goals. These measures of achievement are used for following and aiding the student's progress. They are also the basis on which the PROGRAM is judged and paid for.

Under this agreement WLC will establish and operate a Learning Center in Gilroy to provide reading and math instruction to elementary students. The objectives of the PROGRAM are that all students enrolled in it will (a) advance at least one grade level in reading and math at the end of the fiscal year 1971 (June 30, 1971), and (b) will further progress to performance levels at or near the grade level at which they are enrolled in school.

2. Preparation

A. To prepare for the opening of the Center and for the operation of the PROGRAM, WLC will do these things:

(1) Not later than 20 July 1970 WLC will provide the SCHOOL with a complete and detailed description of the space and furnishings required to operate the PROGRAM so that the SCHOOL will have sufficient time to make suitable space ready for the PROGRAM prior to the beginning of the school year.

(2) WLC will assign from its staff a manager to operate the PROGRAM. It is expected that the Center will have at least two additional staff members. One of these will be a teacher assigned to the Center from the SCHOOL staff and paid by the SCHOOL. WLC will also employ one or more aides in the Center. It is understood that the number of aides on duty in the Center at any time may be adjusted according to the number of students in attendance. WLC will provide all training required for all teachers and aides who will be working in the PROGRAM.

(3) WLC will furnish all educational equipment and all educational and motivational materials required for use in the PROGRAM. (This equipment and these materials will remain the property of WLC.)

B. To prepare for the opening of the Center and for the operation of the PROGRAM, the SCHOOL will do these things:

(1) The SCHOOL will make available, in or near the Eliot School, suitable space for a Learning Center to accommodate up to 52 students. The space will be made ready not later than 20 August, 1970 to meet the requirements of the PROGRAM as described by WLC. The SCHOOL will also make available adequate office space in or near the Learning Center for the use of the WLC staff manager and his secretary. The SCHOOL will provide all

furniture (tables, chairs, desks, etc.) for the Center and for the WLC manager's office.

(2) The SCHOOL will select two teachers from its staff to work in the Learning Center, and the SCHOOL agrees that WLC will have an opportunity to participate in and approve of their selection. The SCHOOL will arrange for the teachers selected to be available for training at least two weeks before the start of the school year.

3. Operations

A. WLC will operate the PROGRAM in the Center according to these terms and standards:

(1) The PROGRAM will be ready to enroll students not later than 28 September 1970. The Center will be open and the PROGRAM will be available for students for no fewer than 5 hours a day, 5 days each week during the school year. Additional hours of operation at any time, and reduced or adjusted hours of operation during school holiday or vacation periods will be arranged by agreement between WLC and the SCHOOL.

(2) WLC will accept for enrollment in the PROGRAM all students assigned to it by the SCHOOL. Based on test information provided for each student by the SCHOOL WLC will establish a learning objective and a program of study for each student. Each student's schedule of attendance at the Center will be arranged as far as possible so that he may be expected to accomplish his objective on schedule.

(3) WLC may notify the SCHOOL within the first 20 hours of any student's attendance at the Learning Center that in its judgment the student cannot benefit from the PROGRAM, and in such case, after review, the student will be withdrawn from the PROGRAM. WLC expects that not more than 3% of the students will fall in this category. Any student who is withdrawn from the PROGRAM may be re-enrolled after the factors responsible for his withdrawal have been remedied.

(4) The results of the PROGRAM will be measured by the achievement of students enrolled in it. The unit of achievement is one achievement-year, which is equal to a 1.0 gain in grade level as

determined by standardized tests. WLC's performance goal, which is subject to the enrollment and attendance standards established in paragraph 3B(2) below, is that students enrolled in the PROGRAM will accomplish a total of 400 achievement-years.

(5) WLC will arrange, in cooperation with the SCHOOL, for visitors, observers, orientation sessions, teachers workshops, and other activities relating to the operation of the PROGRAM provided only that such activities are judged not to interfere with its effective operation.

(6) WLC will arrange with the SCHOOL to provide it with appropriate information on the progress of each student enrolled in the PROGRAM.

B. To assist with and support the operation of the PROGRAM, the SCHOOL will do these things:

(1) The SCHOOL will select Title I participant students for enrollment in the PROGRAM during regular school hours, based on their needs for remedial instruction in mathematics and reading. Each student assigned will have an objective of achieving not less than 1.0 achievement-years in reading and math.

(2) The SCHOOL will pre-test each student assigned to the PROGRAM in math and/or reading to establish his entry level. Only nationally standardized tests which report in grade level equivalents will be used for pre-testing. The SCHOOL will administer post-tests to each student within five school days of being notified by WLC that the student has completed his work. The post-tests will be alternate forms of the pre-tests, and the results of the pre- and post-tests will be compared to determine a student's progress in a subject measured in achievement-years.

S.D. #45

Ten

(3) The SCHOOL will be responsible for the enrollment and attendance of students in the PROGRAM at standard levels which will reasonably permit them to accomplish the PROGRAM'S performance goal of 400 achievement-years. To this end, the SCHOOL will:

(a) Enroll students for a total of not less than 355 achievement-years in the Learning Center, and

(b) Arrange for 103 Title I students to attend the Learning Center for 2 1/2 hours every school day. This is the equivalent of 258 student-hours per day.

(c) Assure WLC of a "standard minimum attendance" in the Learning Center of at least 220 student hours on not less than 170 school days during the school year. This means that the "standard minimum attendance" in the Center will be 220 student-hours per day, and that the "standard minimum school year" will be 170 days. S.M.D. HKS S.M.D. HKS S.M.D. HKS

4. Payment

A. The SCHOOL will pay WLC for its success in accomplishing the performance goals of the PROGRAM, and for the achievements of the students enrolled in it. The total payment to be made will be determined according to the following terms and conditions:

(1) The standard price for an achievement-year accomplished under this contract is $168.75, and the SCHOOL will pay WLC that price for each achievement-year accomplished by students enrolled in the PROGRAM, if the average time to accomplish an achievement-year in each subject for all students is 90 hours or less.

(2) If all students in the PROGRAM average more than 90 hours per achievement-year per subject, the price of $168.75 will be reduced proportionately. For example, an average of 99 hours represents a 10% greater time, and would result in a price for all achievement-years of $151.87 (90% of $168.75).

(3) If any student fails to accomplish at least a 1.0 achievement-year in a subject in 120 hours, the SCHOOL will pay nothing to WLC for that student's work in that subject. The student will remain in the PROGRAM, and his new pre-test score will be the score he obtained on his 120-hour test.

(4) If a student is enrolled with the objective of accomplishing

more than a 1.0 achievement-year in a subject, his actual achievement, measured to the nearest 10th of an achievement-year, will be credited to the PROGRAM, and the equivalent fraction of the price for an achievement-year will be paid to WLC. However, the SCHOOL will in no case pay for more achievement than was established as the student's objective when he enrolled. All achievement beyond that objective by any student will be at no cost to the SCHOOL.

(5) When the SCHOOL has enrolled students for achievement-years having a value of $60,000 (about 355 achievement-years), the SCHOOL may elect to enroll no further students, in which case it will owe no further payment to WLC. If the SCHOOL elects to enroll students in the PROGRAM for more than a total value of $60,000, WLC will accept them for enrollment (provided only that there is reasonable time for them to accomplish the objective for which they are enrolled) at the price of $168.75 per achievement-year until 400 achievement-years are accomplished, and at the price of $75 per achievement-year for all additional enrollments to be completed through August 31, 1971.

(6) If the attendance at the Learning Center on any of the 170 days in the "standard minimum school year" is less than the "standard minimum attendance" of 220 student-hours per day, then the number of student-hours by which the attendance is less than 220 shall be considered excessive absence. Each hour of excessive absence will be considered equal to 1/90th of an achievement-year. The total number of hours of excessive absences during the year, divided by 90, will be counted as achievement-years completed, and the price for that number of achievement-years will be payable to WLC. Any hours of attendance by a student that total less than 50 in a subject, and all hours of attendance by a student for which no pre-test/post-test measurements are available will be considered hours of excessive absence for the purposes of this paragraph. WLC will cooperate with the SCHOOL in scheduling additional hours of operation of the Learning Centers to permit students to make up excessive absences and in this way to minimize the effects of this paragraph.

(7) The SCHOOL will make monthly partial progress payments to WLC on terms to be arranged.

5. It is understood that WLC will not be liable for loss, damage, detention, or delay resulting from causes beyond its reasonable control.

6. WLC will use its best efforts to perform this Agreement in a reasonably diligent manner. There are no warranties, express or implied, except as set forth in this Agreement: and the results of the Learning Center system are guaranteed specifically as described herein and in no other way. In no event shall WLC be liable for any consequential or incidental damage arising out of this Agreement or the breach thereof.

7. This Agreement is not assignable by either party without the prior written consent of the other party.

8. All notices given in connection with this Agreement shall be given in writing. If to WLC, addressed to Westinghouse Learning Corporation, 100 Park Avenue, New York, New York 10017, Attention: H. K. Skeele, Vice President, and if to SCHOOL, addressed to Superintendent, Gilroy Unified School District, 7663 Church Street. Gilroy, California 95020.

IN WITNESS WHEREOF the parties have hereunto set their hands on the date first above written.

GILROY PUBLIC SCHOOLS

By: S. Robert Safstrom

Superintendent

WESTINGHOUSE LEARNING CORPORATION

By: H K Skeele

Vice President

1970-71

CONTRACT

BETWEEN THE

TEXARKANA SCHOOL DISTRICT #7

and

EDUCATIONAL DEVELOPMENTAL LABORATORIES, INC.
A DIVISION OF McGRAW-HILL

THIS CONTRACT, made and entered into this 18th day of September, 1970, by and between the Texarkana School District #7, a public school District organized and existing under the laws of the State of Arkansas, with principal offices located at 1500 Jefferson Avenue, Texarkana, Arkansas 75501 (hereinafter called LEA), and the JOINT VENTURE comprised of EDUCATIONAL DEVELOPMENTAL LABORATORIES, INC., a Division of McGraw-Hill, a private corporation organized and existing under the laws of the State of New York with principal offices located in Huntington, New York, (hereinafter referred to as the Contractor), and Arkansas School Service, Inc., a private corporation (a franchised dealer of EDL/McGraw-Hill) organized and existing under the laws of the State of Arkansas with principal offices located at 1911 Thayer Street, P. O. Box 2801, Little Rock, Arkansas 72203, and Texas Educational Aids, a private corporation (a franchised dealer of EDL/McGraw-Hill) organized and existing under the laws of the State of Texas with principal offices located at 120 East Elm, Tyler, Texas 75701. This contract is based upon the Texarkana School District #7, Arkansas, RFP #2 and the continuation proposal financed by U.S. Office of Education administered ESEA Title VIII grant number OEC-0-9-130045-3360(281), the Proposal submitted by EDL August 13, 1970, and Addendum September 15, 1970, and documented negotiated details September 24, 1970, and is incorporated by reference and made part, hereof.

It is intended to stipulate the scope of work, responsibilities, and obligations assumed by both parties. If further details are required to interpret matters arising under it, the above documents and all controlling local state, and federal laws and regulations and their issues are incorporated in this contract by reference. In instances of conflicts within and between said incorporated documents, resolution will follow, in descending order of authority; (1) Federal laws, regulations, and their issues; (2) State laws, regulations, and their issues; (3) Local laws, regulations, and their issues and (4) Mutual convenience of the contractual parties.

Performance under this contract shall commence September 28, 1970 and terminate June 30, 1971.

OPTION TO RENEW

A. By April 1, 1971 the Contractor will submit in six copies a detailed statement of work planned to be accomplished during the next program year and six copies of a detailed P.P.B.S. budget to support this plan.

B. The LEA will provide written notice to the Contractor by June 21, 1971, based on the meeting and agreement reached by the combined school boards at their June 15, 1971, meeting of their option to review the program for the subsequent year.

I. SCOPE OF WORK

The long-range goals of the Texarkana Dropout Prevention Program are:

1. To significantly reduce the percentage of dropouts in the Texarkana and Liberty-Eylau school districts.

2. To increase academic achievement and skill development of students who are educationally deficient.

3. To increase the cost effectiveness of the instructional program in the Texarkana and Liberty-Eylau school districts.

II. DUTIES OF CONTRACTOR

Using the existing facilities, the Contractor shall establish and operate a teacher support program at a minimum of one learning center located at each of the following schools: College Hill Junior High School; Jefferson Avenue Junior High School; Arkansas Senior High School; Liberty-Eylau Junior High School; and Liberty-Eylau Senior High School.

III. RESPONSIBILITIES OF CONTRACTOR

1. The Contractor agrees to provide an instructional learning system appropriate to the individual needs of the target population.

2. Whenever appropriate, the Contractor agrees to make maximum use of LEA facilities and equipment resources located at the school sites, i.e., mobile units, furnishings, desks, etc.

3. The Contractor agrees to purchase, assemble, install, and maintain all Contractor-owned equipment which will be utilized during the school year at his costs.

4. The Contractor agrees to apply all rental costs to the purchase of any equipment and material on lease at the price quoted in the Contractor's 1971 published catalog. The LEA will have the option to exercise its rights under this contract at any time prior to June 30, 1971, for all equipment and materials used during the 1970-1971 school year. The Contractor agrees to conduct program operations for students in the late afternoon or early evening. The additional cost to LEA for operating these evening centers shall not exceed the established costs for the operation of regular learning centers for similar students.

5. The Contractor agrees to conduct his operational program within the constraints of, and in accordance with, the intent and conditions of the evaluation design.

6. The Contractor agrees to obtain the approval of the LEA in employing all instructional personnel used in the project. Whenever possible, personnel will be employed from the local community.

7. The Contractor agrees to train and monitor all personnel employed to operate the instructional program in the learning centers.

8. The Contractor agrees to provide a list of performance objectives for his instructional program in reading and mathematics. The objectives must stipulate the individual student achievement level required, and the cycle and level of instruction for which these objectives are appropriate. (See Section VIII, Item 2, Page 7.)

9. The Contractor agrees to submit a student attendance record daily, and report to the project director at the time a student drops out of the program. — how closely checked?

10. The Contractor agrees to report the instructional system cost for implementation, and projections to the project director on April 1, 1971 as set forth in Exhibit B.

11. The Contractor agrees to indemnify the LEA from any liability for damage to the Contractor-owned property.

12. The Contractor agrees to the responsibilities outlined in the proposal and addendum and RFP as identified but not specifically included in this contract.

13. The Contractor agrees to instruct all personnel employed to operate the instructional program in the Rapid Learning Centers that if they are party to information relative to the standardized test being employed by the LEA's internal evaluator to determine the guarantee performance level of the Contractor, the individual who has learned this information shall be immediately responsible for reporting such facts in writing to his project director.

IV. RESPONSIBILITIES OF LEA

1. The LEA agrees to schedule and initially provide to the Contractor no more than 300 students with an IQ of 75 or higher as measured by a locally administered intelligence test fulfilling the following entry criteria: (a) students in the 1969-70 Rapid Learning Center (Phase I) program who did not gain one or more grade levels in reading comprehension or mathematics (b) seventh-grade students who are two or more grade levels

deficient in reading and/or mathematics, and (c) students in grades 8-12 who are two or more grade levels deficient in reading and/or mathematics. If any question exists regarding the entry level of an individual student, the case must be referred within fifteen student class days in the project according to a negotiation procedure agreed upon by the LEA and the Contractor. Within fifteen days following referral of an individual, a meeting must be scheduled between the project director and the component manager at which time disposition of the individual case will be made.

2. The LEA will be responsible for ensuring that any RLC student enrolled and in attendance for that particular day will attend the specific component classes operated by the Contractor. It will be the responsibility of the LEA to ensure that RLC students attend regular school classes to the greatest extent possible. Specific after-school program operating hours will be established to allow RLC students who have been absent to complete the work they have missed.

3. The LEA agrees to make the RLC student available to the Contractor for a maximum of 140 days prior to the final posttest. If, in fact, fewer than 140 days of instruction are scheduled during the period of the project for whatever reason (other than fault of the Contractor), the performance guarantee will be reduced proprotionate to the number of days of instruction. (Example: 120 days of instruction: Guaranteed performance level would be 120/140, or 6/7, of the original level.)

4. The LEA through its internal evaluator will be responsible for supervising the administration and scoring of the tests; and continued review and analysis of all material used by the Contractor in the program.

5. The LEA agrees to schedule RLC students to the Contractor for 45 to 55 minutes per day per subject matter area in which the student is enrolled.

6. The LEA agrees to provide office space for Contractor's on-site component manager. Other operational expenses such as secretarial help, supplies, equipment, etc., shall be the responsibility of the Contractor.

7. The LEA agrees to appropriately maintain all space to be used by the Contractor in the instructional program.

V. PERFORMANCE REQUIRED OF CONTRACTOR

1. The Contractor guarantees that each student in the program will increase his achievement in reading and/or mathematics by 1.0 to 1.9 grade levels.

2. The Contractor guarantees that each student will successfully pass 75% of the terminal criterion-reference items,

3. The Contractor agrees that he shall be responsible for all dropouts from the RLC following the intial two weeks of operation. The definition of a program dropout is found in Section VI of this contract.

4. The Contractor shall guarantee that the operating costs of the proposed instructional system will decrease as a result of increased student enrollment, or through efficiencies when applied to a target population prescribed during the performance of this contract.

5. The Contractor's instructional system utilized during the school year 1970-71 Phase II will be guaranteed to maintain the cost-effectiveness level demonstrated during the 1970-71 Phase II school year if the LEA adopts and incorporates it under the same leasing conditions into grades 7-12 in the regular school system during the school year 1971-72 Phase III. This guarantee applies only if the LEA utilizes the Contractor's complete program, operant under the same conditions as obtained throughout school year 1970-71 Phase II.

6. The Contractor agrees to train to his standards a minimum of ten mathematics teachers, ten English teachers, and two equipment maintenance persons from the participating school district's personnel to operate the learning center turnkey program for Phase III (1971-72). The LEA shall select the teachers to be trained. The Contractor will provide information on teacher training cost.

7. The internal evaluator shall, during the period two weeks prior to the posttest, make a quality control check of the instructional materials in use in the program to determine whether the Contractor has fulfilled the requirements listed in Exhibit A. Should the quality control check indicate drilling of exposed items during the two-week period immediately prior to posttesting, the Contractor shall be liable for the cost of a complete comparison analysis of all instructional "bits" used in the two-week period with all test items, and in addition shall be penalized $1,000.00 for each exposed item.

8. The Contractor shall not include in any of his instructional materials any exercises that are the same as the items used in the tests that will be used to determine how much the Contractor will be paid. The definition of "same" would be determined by the rules in Exhibit A. These rules apply only to instructional materials that have been copyrighted since the inception of Phase II.

VI. METHOD OF MEASURING PERFORMANCE

A. DEFINITIONS

The following definitions shall apply in the program:

1. A student will be considered a dropout from the program if he or she leaves school or the program and does not reenter within

thirty days. Exceptions to this definition are: (a) if a student is drafted into military service (b) if a student is physically or mentally incapacitated to such an extent that he or she is not able to participate in the project and attend school as certified by a licensed physician, or (c) other reasons mutually agreed upon by the project director and the Contractor.

2. The starting time for each RLC student will be the first day the student enters the program. Any exception to this procedure must be agreed upon by the project director and the Contractor, and any such agreement must be made in writing.

3. The ending time for the instructional program for each student shall be the date when the final standardized test is administered to the student. If the student takes the January and May 1971 standardized tests, the latter date shall be considered the ending date. Exiting of students who have demonstrated exceptional achievement will be by the mutual agreement of the project director and the EDL component manager.

4. Actual instructional time is the net instructional time spent in the program.

5. Students attending RLC's will be referred to herein as student.

VII. BASIS OF PAYMENT

1. Determination of total payment to the Contractor will be based on the (a) achievement gain made by each student on the standardized tests, and (b) extent to which each student achieves the final criterion-reference measure.

2. Seventy-five (75%) per cent of total payment will be based on the results of the standardized tests, and twenty-five (25%) per cent of total payment will be based on the results of student achievement on final criterion-reference measure.

3. Total maximum project costs of $65,788.00 are to be distributed as follows:

   Fifty (50%) per cent of the Fixed Charge, $19,506.00, will be paid the Contractor at the signing of the contract; and the remaining fifty (50%) per cent, $19,506.00, will be paid the Contractor on or before December 1, 1970. Final payment in the amount of $26,776.00 will be made to the Contractor subject to adjustment downward based on performance and the conditions set forth under Section V. Item 7, above, and Section IX, below, on or before June 30, 1971.

VIII. PROCEDURES

1. Standardized tests used to measure performance will be selected by the project director, and approved by the internal evaluators from the nationally standardized tests generally available to the school market. The project director will have authority

over all pre- and posttesting conditions, and will adhere to standard testing procedures and scoring practices as defined by the test publisher. He will determine when the tests will be given, and which forms of the selected tests will be given to individual students. The Contractor will not be told what test or what forms of the test have been or will be used for each student.

2. The Contractor must submit to the project director a pool of criterion-referenced test items. At least five (5) times the number of behavioral objectives inherent in the structure of the system to be used must be submitted and approved by the internal evaluator thirty (30) days after initiation of the program.

IX. FORMULA FOR PAYMENT

A. Student Point

A student point is a unit of measure in the amount of $26,776.00 divided by the total point value for the number of assigned students. Each student will be assigned 4 points for mathematics and/or 4 points for reading.

Four points were selected in order to facilitate the computation for each student in each subject area on the basis of 75% payment (3 points) for norm reference tests and 25% payment (1 point) for criterion reference tests.

B. Computation of Contractor Performance Payment

1. Ranges of growth per student for point assignment

Penalty:

Up to and including .9 years growth (math)	3 penalty pts.
Less than 75% achievement on final criterion-referenced measure (math)	1 penalty pts.
Up to and including .9 years growth (reading)	3 penalty pts.
Less than 75% achievement on final criterion-referenced measure (reading)	1 penalty pts.

Achievement Guarantee:

1.0 to 1.9 years growth (math)	No assignment of pts.
Satisfactory achievement on final criterion-referenced measure (math)	No assignment of pts.
1.0 to 1.9 years growth (reading)	No assignment of pts.
Satisfactory achievement on final criterion-referenced measure (reading)	No assignment of pts.

(i.e., nothing deducted from full payment)

Bonus: (allows trade-off)

2.0 or greater years growth (math)	3 bonus pts.
85% or greater achievement on criterion-referenced measure (math)	1 bonus pts.
2.0 or greater years growth (reading)	3 bonus pts.
85% or greater achievement on criterion-referenced measure (reading)	1 bonus pts.

2. Computation for final payment

Following point assignment for all students, the balance (bonus points minus penalty points) will be used to determine final payment to Contractor.

Penalty:

$26,775.00 - (Student point value x penalty pt. bal.)

Achievement Guarantee:

$26,775.00 - (No penalty/no bonus)

Bonus:

$26,775.00 + $1.00 ------ (Contractor agreed acceptance for bonus condition, regardless of number of bonus points earned.)

C. Payment Related to Student Withdrawal for Cause

If the student leaves the project for cause, the Contractor will receive cost reimbursement of the $26,776.00 held in escrow based upon a linear proration of Contractor's costs up to the time of the student's departure. The Contractor's reimbursement for the exiting student's final performance and his or her performance on any interim performance objectives that have not been tested will be based upon a proration of the mean gain of the student's class, up to the time of the student's departure.

X. TEACHER TRAINING

Teacher training for the project will be conducted by EDL personnel. The teaching staff will be selected from the LEA district for training and continued teaching activities within the learning center. Five lab directors and five para-professionals will be selected for training, with final approval of the Contractor and the LEA. They will be scheduled for a five-day, forty-hour training period prior to installation of the systems. Additional teachers will be selected and trained concurrently to provide a corps of trained specialists who will be able to continue the instructional program if any staff members are unable to complete the year due to extended illness or normal teacher attrition. The Contractor agrees to train 20 additional district staff members in

the operation of the system. The intent here is to form a nucleus of trained professionals within the Texarkana districts who can be used as resource teachers or staff development consultants during subsequent phases of the Texarkana Dropout Prevention Program. The initial training period will consist of five consecutive days. Training will include the component manager, all lab directors, and all para-professionals and resource consultants (staff members to be trained). The training schedule (See Appendix B, Contractor Proposal) will be adhered to during the five-day initial training period. Twenty hours of ongoing in-service training sessions or visitations will be conducted by EDL or authorized representatives. The resource consultants will act as consultants to lab directors as required, and will assume responsibility for assisting EDL teacher training personnel during ongoing in-service training sessions.

XI. TEACHER ADMINISTRATION POLICY

The success of the LEA program depends on the willingness and ability of the teachers assigned to the program to use the methodology. If a personnel situation develops in which it appears that a teacher may not be serving the best interest of the LEA program as mutually concluded by the component manager and the project director, the project director shall consider the replacement of such teacher.

XII. DISSEMINATION POLICY

Dissemination of information pertaining to planning, negotiation procedures, and interim activities related to the project will be mutually agreed on by project director and Contractor prior to its release to the public.

All information pertaining to evaluation or test results may be disseminated only by the project director. Subsequent to public release of data and information and/or following completion of the present contract, the Contractor will have the right to prepare and distribute evaluation reports, based on released data, and to distribute reprints of this evaluation to interested parties.

XIII. VISITATIONS

Visitation privileges will be extended at the discretion of and with mutual agreement between the project director and the Contractor. Specified times and sites for visitation will be established, and made available upon request to potential visitors.

XIV. SUCCESSORS AND ASSIGNEES

All terms, conditions, and provisions hereof shall inure to and shall bind the parties hereto, their, and each of their respective heirs, executors, administrators, successors and assignees. Contractor shall not subcontract, assign, mortgage, encumber or otherwise transfer any interest in this agreement.

XV. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fees, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the LEA which have the right to annul this contract without liability or any discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of said commission, percentage, brokerage, or contingent fee.

XVI. EQUAL EMPLOYMENT OPPORTUNITY (Section 202, Executive Order 11246, September 24, 1965, 30FR 11269)

"During the performance of this contract the Contractor agrees as follows:"

1. "The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to insure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not to be limited to the following:

   Employment, upgrading, demotion, or transfer, recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause."

2. "The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin."

3. "The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contracts or understanding, a notice, to be provided by the agency contracting officer advertising the labor union or workers representative of the Contractor's commitments of Section 202 of Executive Order #11246 of September 24, 1965, and shall post copy of the notice in conspicuous places available to employees and applicants for employment."

4. "The Contractor will comply with all provisions of Executive Order #11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor."

5. "The Contractor will furnish all information and reports required by Executive Order #12246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts between contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders."

6. "In the event of the Contractor's non-compliance with the non-discrimination clauses of his contract or with any of such rules, regulations, or orders, his contract may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order #12246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order #12246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor or as otherwise provided by law."

7. "The Contractor will include the provision of #137 in every subcontractor purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued persuant to Section 204 of Executive Order #12246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as a contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance: provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States."

XVII. CERTIFICATION OF NON-SEGREGATED FACILITIES

The Contractor or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control, where segregated facilities are maintained. The Contractor or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification the term "segregated facilities" means waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color or national origin, because of habit, local custom,

or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000.00 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice of such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

XVIII. NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A certification of non-segregated facilities, as required by the May 9, 1967, Order (32 FR 7439, May 19, 1967) on elimination of segregated facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000.00 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontractor or for all subcontracts during a period (i.e., quarterly, semi-annually, or annually).

Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

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IN WITNESS WHEREOF, the parties have caused this agreement to be signed in their behalf by their duly authorized representatives on the day and year first written above.

CONTRACTOR	LEA
_____	_____
Edmund Zazzera President EDL/McGraw-Hill	_____
	_____

Notarized Certifications:

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EXHIBIT A

Rules for Deciding Whether Two Items Are To Be Considered the Same (see Evel. report, 69-73

Two items are to be considered the same if:

1. Their wording is identical in all respects.

   Example: A. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

   (1) 3 X 3.14 (3) 3 X 3 X 3.14
   (2) 6 X 3.14 (4) ? X 6 X 3.14

   B. Which of these is a way to find the circumference in inches of a circle with a 6-inch diameter?

   (1) 3 X 3.14 (2) 6 X 3.14 (3) 3 X 3 X 3.14
   (4) ? X 6 X 3.14

   (Note change in arrangement of options.)

2. The wording of the stem and the wording of the correct response are identical; the other responses have been changed.

   A. Same as above.

   B. Which of these is a way to find the circumference of a circle with a 6-inch diameter?

   (1) 3.14 X 3 (3) 3 X ?.17
   (2) 6 X 3.14 (4) 2 X 6 X ?.1416

3. The correct response is identical and the main sense of the stem has been retained despite a minor change in wording.

   A. Same as above.

   B. The number of inches in the circumference of a circle with a diameter of 6 inches is:

   (1) 6 X 3.14 (3) 3 X 3 X 3.14
   (2) 3 X 3.14 (4) 6 X 6 X 3.14

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EXHIBIT A (cont.)

4. The main sense of the whole item has been retained despite the fact that it has been restated in the negative.

A. Same as above.

I. The number of inches in the circumference of a circle with a diameter of 6 inches is not:

(1) 6×3.1416 (3) $3 \times 3 \times 3.14$
(2) $6 \times \frac{22}{7}$ (4) $2 \times 3 \times \frac{22}{7}$

5. The main sense of the item has been retained despite a minor change in wording; the correct response is identical, but any incorrect option has been changed or omitted.

A. Same as above.

B. The number of inches in the circumference of a circle having a 6-inch diameter can be found by which one of these?

(1) $3 \times \frac{22}{7}$ (2) 6×3.14 (3) $3 \times 3 \times 3.14$

6. The item has been changed from a multiple-choice to a true-false format by restating the stem of the multiple-choice item and incorporating in the stem one of the options (correct or incorrect).

A. Same as above.

B. The number of inches in the circumference of a circle with a 6-inch diameter is $3 \times 3 \times 3.14$:

TRUE FALSE

ANALYSIS OF COST / EFFECTIVENESS RATIOS

The Contractor agrees to work in cooperation with the LEA in analyzing its present cost / effectiveness ratio for students in traditional programs, and in comparing these ratios with cost data from RLC installations. From the costs computed by LEA, the contractor will build alternate models for use as decision making tools within the cost restrictions, time allowances, and distinct imposed restraints as delineated by LEA. The conceptual basis of cost / effectiveness, the computational structure and the definitions under which computation can be accomplished are provided below.

The use of an accountability concept in education has coincided with the belief that some form of analysis of cost / gain (the cost to a school district for a unit of student growth) factors can be applied to education. Various forms of cost analysis have been used in business to allow study of relative effectiveness of different operations and procedures. In business, there are clear difinitions of costs required to generate a product or service and the value of the completed unit produced. While it can not be assumed that the value of education can be so easily assigned, the basic mathematical ratios can be computed; cost analysis in education requires the comparison of the value of the product (the academic growth of the student) to all elements of a production cycle (costs of staff, materials, plant, etc.) The application of this technique to the behavioral sciences is not only complex, but also presupposes that decisions have been reached regarding a definition of desirable outcomes, student growth, and the extent to which these outcomes can be considered a funtion of multiple input variables, such as class size or materials used in the classroom. To assume that definitions of outcomes an inputs can be stated and agreement can be reached regarding valid measurement of the defined outcomes or that any instructional technique or approach can ever be free of intervening variables would be naive. However, to refuse to participate in the development of cost anaylysis approaches because of the state of the art would be less than farsighted. As a tool of decision makers and as an evaluation of educational accountability, analysis of costs must be done.

Models for Cost Analysis

Three models for cost analysis can now be used, or may be used, in education as measurement techniques become more sophisticated. Comparative cost analysis, cost / effectiveness analysis, and cost / benefit analysis provide feasible models for educators. The selection of a suitable model depends, to some extent, upon the needs of a district and the availability of data. In general, however, the trend of the use of cost analysis is an evolutionary trend; school district personnel are now using some form of comparative cost analysis as a tool for decision making. As evaluation assumes a more prominent role in the total educational management process, and as accounting and audit-track procedures are applied to classroom activities, cost / effectiveness analysis will become a valuable approach to comparative anaiysis and, therefore, to the selection of alternatives; and cost / benefit analysis will remain

a goal to be sought in the analysis of costs but usable only at some future time when reliable and valid measurement techniques have been devised which will have the capability to evaluate all aspects of a student's changes in behavior that can be attributed to his activities within the school environment.

Because cost / benefit analysis, which would include considerations of behavioral change in the affective as well as the cognitive domain, is not usable at this time, certain assumptions about the values of education must be made. It must be assumed that at this point in time the primary measurement of the value of education is based upon levels of achievement as measured by standardized or criterion referenced tests. In general, the measurement of concomitant growths of students, such as independence of action, ego maintenance and strength, and the ability to successfully relate to teachers and peers, must be postponed until measuring instruments are prepared. This does not imply that these behavioral changes should be ignored. There may be situations in which cost analysis computations yield the same or similar results for two or more educational approaches. Decision making must, in this instance, be based in whole or in part upon more subjective evaluation by students, teacher, and administrators involved.

The following has been prepared as a guide for the computation of cost / effectiveness ratios. It has been assumed that ratios will be computed for a traditional language arts program and for L-100 use for comparative analysis. Any standardized test can be used as the dependent variable to analyze the results. A criterion referenced test could be used as the dependent variable if there is reason to believe that the test items are reliable and that the test is a valid measure of generalizable objectives in reading and language arts. All cost factors must be determined for both the traditional and the L-100 classroom units in order to provide comparative estimates.

In order to establish a cost / effectiveness ratio for students within a particular district or for students from any target population within a district, the following cost factors must be determined. For this comparative study, the district ratio will be that ratio computed for traditional installations and the target ratio will be that ratio computed for LEA installations.

1. Total yearly expenditure for regular classroom language arts instructional equipment and non-consumable materials for target population. In order to determine the cost for one year, the equipment and materials must be amortized over the appropriate time periods. (School District, State, and Federal Funds must be included.)

2. Total yearly expenditure for regular classroom language arts and consumable instructional materials for target population. (School District, State, and Federal Funds)

3. Total yearly expenditure for language arts, instructional equipment and non-consumable materials for target population for all remedial activities. In order to determine the cost for one year, the equipment and materials must be amortized over the appropriate time periods. (School District, State, and Federal Funds)

4. Total yearly expenditure for consumable language arts instructional materials for target population for all remedial activities. (School District, State, and Federal Funds)

5. Average salary of teacher for each regular classroom unit within the target population.

6. Average number and average salary of paraprofessionals assigned full or part-time to each classroom unit within the target population.

7. Average salary for reading diagnosticians and remedial teachers assigned full or part-time to each classroom unit within the target population.

8. Unit cost of classroom (total cost to district for maintaining one classroom).

9. Average growth of students (participating in regular classroom activities only) within each grade level of the target population, based upon standardized test scores (it may be of interest to the district research personnel to further break down this data into quartile ranges for more detailed analysis of subsamples).

10. Average growth of students in remedial classrooms at each grade level, based upon standardized test scores.

Upon determination of these cost factors, cost effectiveness ratios can be computed by the following formulas.

Note: It is possible to compute cost / effectiveness amounts for students in regular classrooms only, for students assigned for remedial work only, or for the combination of both groups by substituting zero values appropriately in the formulas.

Definition of Symbols

N = total number of regular students + total number of remedial students

n = total number of schools within target population

n_j = total number of regular classrooms plus total number of remedial classrooms

Σ = summation of all scores

COST/EFFECTIVENESS ANALYSIS FOR LANGUAGE ARTS INSTRUCTION

First Step	Define target population and program
_____	Name of educational program or system
_____(N)	~~Equal~~ total number of regular students plus total number of remedial students in target population
_____(n)	Total number of schools within target population
_____(n_1)	Total number of regular classrooms plus total number of remedial classrooms
_____	Total number of teachers

Second Step	Define and isolate cost of instruction
Major educational cost factor for one year	Description of cost items and instructions for computation
ITEM 1 Equipment and non-consumable instructional materials $_____	Total yearly expense for instructional equipment and non-consumable materials used for regular class instruction. To get cost per year, divide total costs by expected life of the materials. Include purchases made with federal, state & local funds.

ITEM 2

Consumable Materials

Total yearly cost for all consumable materials used for regular language arts instruction. Include materials purchased with federal, state, & local funds.

ITEM 3

Remedial Education costs for equipment and for non-consumable materials

$_____

Determine total costs of equipment and non-consumable materials used for remedial instruction. Divide total cost of each item by years of, expected life to get yearly cost. Include materials purchased through federal, state, & local funds.

ITEM 4

Remedial Education cost for consumable materials

$_____

Add together costs for all consumable materials used for remedial language arts instruction and target population.

ITEM 5

Teacher Salaries (average for one yr)

A. $_____

B. number of teachers _____

Calculate the average annual salary of classroom teachers who provide regular language arts instruction for the target population. Include number of regular classroom teachers.

ITEM 6

Costs of teacher aides, paraprofessionals

$_____
(average salary of full-time aide)

$_____
(Average yearly salary of part-time aide)

Compute the average annual salaries of the full-time staff of teacher's aides, and the average annual salary of part-time aides. Include only those aides who participate in language arts instruction with target students.

ITEM 7

Costs Reading Specialists Testing personnel, and remedial teachers

A. $_____ average salary

B. $_____ Number of personnel

Find the total costs for reading diagnosticians, specialists, and classroom teachers who provide remedial instruction and services for taget population. Include the number of personnel involved in remedial instruction.

ITEM 8

Classroom Cost

$_____

Find average cost for one classroom used for target population. Include cost of maintenance, heat, light, construction, and debt service.

ITEM 9

Language Arts Instruction Time _____%

Find the percentage of class day spent in regular class language arts instruction

ITEM 10

Percentage Remedial Language Arts Instruction Time _____%

Find the percentage of class day spent in remedial learning with language arts instruction. Include time students spend in regular class instruction if remedial time is supplementary to it.

ITEM 11

Average growth of students at each grade

ΣPretest _____

ΣPosttest _____

_____

Name of test used.

Report a summation (Σ) of pre-test scores and posttest scores for entire target population. Include name and form of standardized test used together with date administered.

Pretest _____ Date

Posttest _____ Date

ITEM 12

Remedial student growth

ΣPretest _____

ΣPosttest _____

Average growth of students in remedial classrooms in language arts. Growth should be reported in months, according to standardized achievement tests.

Fourth Step:

Compute Cost / Effectiveness Ratios using these formulas.

Insert cost and growth items (Steps 1, 2, & 3) in each formula to obtain costs and effectiveness factors. Procede sequentially.

Cost / Effectiveness Factor	
Factor A Total Equipment and materials cost; per child per year.	$= \frac{\text{Item 1} + \text{Item 2} + \text{Item 3} + \text{Item 4}}{N}$
Factor B Classroom personnel costs; per student per year	$= \frac{n(\text{Item 5a} \times \text{5b}) + (\text{Item 6a} \times \text{6b})\ (\text{Item 9})}{n}$
Factor C Remedial Personnel costs; per student per year	$= \frac{n\ (\text{Item 7a} \times \text{7b}) + n(\text{6a} \times \text{6b})\ (\text{Item 10})}{N}$
Factor D Cost of plant operation; per child per year	$= \frac{n_1\ (\text{Item 7a})}{N}\ (\text{Item 9})$
Factor E Average gain in reading (months)	$= \frac{\Sigma \text{ posttest scores} - \Sigma \text{ pretest scores}}{N}$ (Σ Means summation of scores)
✓ Factor F Cost / Effectiveness Ratio for total Target population	$= \frac{\text{Factor A} + (\text{Factor B} + \text{Factor C}) + \text{Factor D}}{\text{Factor E}}$

OEG-0-9-130045-3330 (281)

CONTRACT

KNOW ALL MEN BY THESE PRESENTS, that, Texarkana School District #7, Miller County, Arkansas, a public school system incorporated in the State of Arkansas with principal offices at Texarkana, Arkansas, designated as Fiscal Agent for a planned "dropout prevention project" to be funded by the U. S. Office of Education, hereinafter described as the "Agent," for and in consideration of five dollars ($5.00) and other valuable consideration, receipt whereof is hereby acknowledged, does hereby contract and agree with EPIC Diversified Systems Corporation, a private Arizona corporation with principal offices at Tucson, Arizona, hereinafter described as the "Contractor," as follows:

WITNESSETH THAT:

WHEREAS, the Agent has received continuation of an operational grant for Phase II under the auspices of the U. S. Office of Education to conduct a "Dropout Prevention Program" in Texarkana, USA, area, and desires certain technical assistance in the operation of such program, and

WHEREAS, the Contractor is prepared to provide certain technical assistance and advice to the Agent in the operation of such program. (See Attachment I.)

NOW THEREFORE, the parties do mutually agree as follows:

I. Scope of Work to be Performed by Contractor

The services to be performed by the Contractor for the general purpose of:

1. verifying the results of the project evaluation, and

2. assessing the appropriateness of the evaluation procedures.

The more specific services to be performed by the Contractor shall include: (See attachment)

1. To verify the implementation of the project evaluation design.

2. To review the evaluation forms, questionnaires, and instruments required in the evaluation design.

3. To review the monitoring of the collection of information required in the evaluation design and as reported by the internal evaluator.

4. To verify the analysis of data as gathered and reported by the internal evaluator to the project director.

5. To review and report on the information and/or reports presented by the internal evaluator to the project director.

6. To provide the project director with two major Audit reports--one based on the Interim Evaluation Report and the other based on the Final Evaluation Report presented by the internal evaluator.

II. Audit Personnel

The Educational Program Auditor will be Dr. Robert E. Kraner, utilizing a team of support personnel from the EPIC Diversified Systems Corporation. The support personnel will be Dr. Terry Cornell, Evaluation Design Specialist, Mr. Allan Gibson, Measurement and Statistics Specialist, and Dr. Robert Armstrong, Project Management Specialist. The resumes of these people are presented in Attachment I.

III. Audit Sampling Technique

Due to the extreme need for accuracy for all testing scores utilized for payment purposes, the evaluation activities directly associated with the administer-

ing, scoring, and tabulating of these data will be thoroughly monitored and all statistical analyses duplicated.

Other evaluation data results will be spot-checked on a basis of not less than 5% of the total

IV. Audit Plan Schedule (October 15, 1970-June 30, 1971)

1. October 15 (or at scheduled pre-testing)--On-site Visitation
   a. Observe pre-testing procedures and conditions.
   b. Interview teachers and students in the project.
2. October 31--Report to Project Director on reported evaluation activity and data.
3. November 30--Report to Project Director on reported evaluation activity and data.
4. December 31--Report to Project Director on reported evaluation activity and data.
5. January 10--On-site visitation
   a. Spot check reported evaluation activity.
   b. Interview project personnel.
6. February 1--Process Audit Report to Project Director
7. March 31--Report to Project Director on reported evaluation activity and data.
8. April 30--Report to Project Director on reported evaluation activity and data.
9. May 25 (or at scheduled post-testing)--On-site Visitation
   a. Observe post-testing procedures and conditions.
   b. Interview project personnel.
10. June 25-(or twenty days after receiving final evaluation report)--Final Audit Report

V. Responsibilities of the Fiscal Agent

A. Consultation

The fiscal agent and participating staff members shall cooperate with the contractor's representatives, and shall make themselves available at all reasonable times during ordinary working hours during the period of the contract. They shall be willing to confer with the contractor on any problems that arise and assist in the planning and implementing of the services included in this contract.

B. Information

The fiscal agent or his designate shall cooperate with the contractor's representative in providing all information essential to carrying out the scope of work described herein and as presented in Attachment B, Outline of Educational Program Auditing Procedures, U.S.O.E.

C. Inspection and Reports

The fiscal agent shall have the right at all times during the period of the contract to inspect the work performed by the contractor, and to request brief interim oral or written reports of work progress from the contractor as may be reasonably necessary to assure proper performance of the contract.

VI. Period of Performance

The services of the contractor are to commence on October 15, 1970, and will end June 30, 1971.

VII. Compensation and Method of Payment

A. Compensation

1. To perform the services outlined in this contract, the Fiscal Agent shall pay to the contractor a sum of money not to exceed $7,002.60, and it is to include all costs and expenses related to this agreement and represents payment in full for the complete and satisfactory services noted herein. (See budget, attachment II.)

2. The payment under this agreement will be made upon presentation of a requisition for payment by the contractor and will specify expenditures for the following line items:

a. Personnel
b. Travel
c. Supplies, equipment, and services
d. Overhead and miscellaneous

B. Method of Payment

1. The dates listed on the evaluation design represent deadlines for performance of various services except where changes in deadline dates are mutually acceptable to the Fiscal Agent and the contractor.

2. Payments to the contractor shall be made according to the completion of the following schedule for the following amounts:

	Date	Activity Related to Payment	Amount of Payment
1.	October 15	On-site Visitation	$1,400.52
2.	December 31	Report to Project Director	1,400.52
3.	February 1	Process Audit Report	1,400.52
4.	April 31	Report to Project Director	1,400.52
5.	May 25	On-Site Visitation	1,400.52

VIII. Changes and Conditions

Changes, additions, or conditions to this contract may be made only by mutual agreement of the parties.

In withess whereof, the parties bereto have executed this contract this twenty-eighth day of September, 1970.

Texarkaaa School District No. 7

By Edwin D. Price
Fiscal Agent

EPIC Diversified Systems Corporation

By Robert C. Kramer
President

ROBERT J. ARMSTRONG

Dr. Robert Armstrong was a member of the planning committee that developed the EPIC concept and operational plan in 1966. He served as Assistant Director of the Center for one year, and Director of the Center for two years while it was operational as an ESEA, Title III Project. Under his direction, the Center developed from an agency initially working with fourteen local school districts to an agency involved in over twenty different States.

Dr. Armstrong was an Associate Professor of Education at The University of Arizona and held an appointment at that institution for five years. Prior to his work at the university and with EPIC, he had ten years experience in public schools, serving as a classroom teacher and school administrator.

Other Areas of Professional Experience and Responsibility:

Development and implementation of EPDA training institutes in cooperation with the U. S. Office of Education.

Consultative assistance in such State Agencies as Texas, Nevada, Arkansas, and Arizona in the development of evaluation strategies for State-wide programs and the training of personnel.

Member of the research team of EPIC that developed and field-tested the EPIC Structure and Scheme for Evaluation.

Development of program format and training procedures for PPBS pilot programs in California (Goals, Objectives, and Evaluation)

Assistance to the Arkansas State Department of Education in their Comprehensive Planning Program under 402.

Member of EPIC team developing and implementing Management by Objectives procedures at the State and local levels.

Evaluation of regional center management.

Dr. Armstrong has been directly involved in the training programs carried out by EPIC over the past three years and is in part responsible for the systems and related materials that are used in the training activities.

TERRY D. CORNELL

Dr. Cornell has served as Coordinator of the Evaluation Services Division for the EPIC Evaluation Center during the past two years. Under his direct supervision of all evaluation designs, statistical analysis, instrument development, and data processing have been completed for EPIC projects.

Dr. Cornell is an Assistant Professor of Education at the University of Arizona and has primary responsibility for the statistics and measurement instruction within the College of Education. He received his Ph.D. from the University of Michigan and served as Research Design Consultant at that university.

Other key contributions:

Development and field-testing of State-wide needs assessment programs.

Assistance to the Tennessee State Department of Education in the development of State-wide evaluation programs.

Assistance to the Washington State Department of Education in the development of evaluation designs for all Title III, ESEA programs.

Co-author for two books related to the writing and evaluation of objectives.

Responsible in part for the training procedures and manuels developed by EPIC which relate to evaluation skills.

Dr. Cornell is presently supervising the evaluation designs and strategies being developed by EPIC for educational agencies in some twenty different States.

ALLAN GIBSON

Allan Gibson, a Measurement Specialist with the EPIC Evaluation Center, is presently involved in evaluation projects concerned with students from pre-school to senior high school. The personnel involvement concerns evaluation designs, statistical analysis, and measurement techniques in both cognitive and affective areas. During the past three years, he has participated and/or consulted with many local and State agencies.

Examples of the work involved in these engagements include:

The development of affective instruments
The development of cognitive instruments
The development of evaluation designs for funded programs
Statistical analysis of data related to funded programs
Conducting evaluation workshops
Proposal writing
Educational auditing

These activities include involvement in large urban headstart programs, state regional education centers, state departments of education, Titles I, III, VII, and VIII programs, inter-city programs, and urban and rural programs in Arizona.

ROBERT E. KRANER

Dr. Kraner was one of the initial team members that planned and implemented the EPIC Evaluation Center. He was instrumental in much of the work related to the development of operational procedures for the Center. He served as Coordinator of the Evaluation Services Division for one year, and as Assistant Director of the Center for the past two years.

Dr. Kraner is an Associate Professor of Education at The University of Arizona and has had several years of public school teaching and administrative experience.

Other responsibilities include:

Developed the concepts used by EPIC in their role as an "Educational Auditor."

Educational Auditor for the Texarkana Dropout Program.

Consultant services to the States of Tennessee and Arkansas in the development and implementation of State-wide evaluation programs.

Co-author of two books related to the writing and evaluation of objectives.

Dr. Kraner has been directly involved in many of EPIC's training programs and in part responsible for the materials and procedures used in these programs.

SELECTED AGENCIES AND ORGANIZATIONS
WHO HAVE UTILIZED EPIC SERVICES

Alabama — (South Alabama University and the Southern Alabama Desegregation Center) EPIC conducted a training session for key project personnel. Training focused on evaluation skills and behavioral objectives.

Arizona — (State Department of Public Instruction) EPIC conducted a training program for all Title III project directors, emphasizing evaluation skills and behavioral objectives. EPIC has also scheduled a series of workshops to train State Department personnel in the same areas of concentration.

(Bilingual Education Programs) EPIC is currently serving as the external educational auditor for all four of the Bilingual Education Programs in the State.

Arkansas — (State Department of Education) EPIC is currently involved in a long-term arrangement with the State Department and its related regional centers. During the 1968-69 academic year, twelve training and planning sessions were held at various regional centers to develop their evaluation capabilities. EPIC is in the process of implementing two large-scale programs in the State starting in September of 1970 (State-wide Needs Assessment and Assistance to State-side Title I, ESEA Evaluation).

California — (Los Angeles Unified Schools) EPIC is serving as the internal evaluator for the Title III, ESEA Educational Complexes in the Watts and Garfield Districts. This consists of developing program objectives, descriptions, evaluation designs, program monitoring, and data analysis.

(Santa Monica Unified District) Analysis of district-wide achievement test scores at the elementary school level.

(Fremont Unified School District) EPIC is assisting program personnel to develop internal evaluation procedures for Title III, ESEA Project.

(Berkeley Unified School District) In cooperation with the administration, business office and selected teachers, EPIC has been developing a hierarchical system of objectives for the PPBS System. EPIC has also conducted initial training sessions in their objective writing.

Florida — (State Department of Education) EPIC conducted a series of ten training sessions in behavioral objective writing for State and school district personnel.

SELECTED AGENCIES AND ORGANIZATIONS
WHO HAVE UTILIZED EPIC SERVICES
(Continued)

Kansas	(State Department of Education) Assistance provided to State agency for long-range planning of evaluation strategies.
Kentucky	(State Department of Education) Extensive training and consultative services have been provided this agency in the development of their State plan for evaluation of federally supported programs.
Michigan	(Michigan Council for Teachers of English) Under the sponsorship of Project "Message," EPIC conducted an extensive training session for selected members of the organization. The training emphasized evaluation skills and behavioral objective writing.
Nebraska	(Educational Regional Center, Scottsbluff) Training of Special Education teachers in behavioral objective writing.
Nevada	(State Department of Education) Two training sessions have been conducted for this agency. One session focused on evaluation skills for federal project personnel, and the second session was for the purpose of training State personnel in the writing of behavioral objectives.
Tennessee	(State Department of Education) Consultants were provided to this agency by EPIC to assist in the development of a Statewide plan for the evaluation of Title III, ESEA programs.
Texas	(Texas Education Agency) EPIC will be initiating a research and development program in cooperation with this agency to establish a model evaluation program for a regional center. The work focuses primarily on Special Education.
Utah	(Utah State Administrators Association) Orientation and training sessions were recently conducted for the organization to initiate long-range plans for evaluation of instructional programs.
	(Weber State College) EPIC staff is involved in assisting this institution in developing the objectives and evaluation.
Washington	(State Department of Education) EPIC staff assisted all ESEA Title III project directors in developing objectives and the evaluation designs for proposals to be submitted for funding.
U. S. Office of Education	(Educational Personnel Development Act) EPIC conducted a series of training programs for EPDA project directors under contract with U.S.O.E.

EDUCATIONAL PROGRAM AUDIT BUDGET

Direct Labor Costs:

One Educational Program Auditor (18 days)	$2,700.00
One Evaluation Design Specialist (2 days)	300.00
One Measurement and Statistics Specialist (2 days)	300.00
One Project Management Specialist (2 days)	300.00

Other Direct Costs:

Travel:	
a. Air Fare (3) Tucson-Texarkana	516.00
b. Per Diem (5 days @ $30.00)	150.00
Materials and Reproductions	300.00
Computer Facility and Personnel (complete check and verification of scores serving as basis for payment and their statistical analyses as reported)	1,800.00
Sub-total	$6,366.00
10% Overhead (facilities and equipment)	636.60
Total	$7,002.60

September 28, 1970

ASSURANCES

1. The applicant has the necessary legal authority to apply for and receive the proposed grant.

2. The activities and services for which assistance is sought under this Title will be administered by or under the supervision of the applicant.

3. In planning the program proposed in the application, there has been, in establishing and carrying out that program, there will be participation of the appropriate cultural and educational resource(s) of the area to be served, including persons representative of the interests of potential beneficiaries.

4. Funds under Title VIII of the Act will be used to supplement and not supplant state and local funds expended for educational purposes and, to the extent practical, increase the fiscal effort that would in the absence of such funds be made by the applicant for educational purposes.

5. The applicant will comply with Title VI of the Civil Rights Act of 1964 (PL 88-352) and all requirements imposed by, or pursuant to, the Regulations of the Department of Health, Education, and Welfare (45 CFR Part 80) issued pursuant to the title, to the end that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under activity for which the applicant receives Federal financial assistance

from the Department. (The assurance of compliance (HEW 441); or court order, or desegregation plan previously filed with the U. S. Office of Education in accordance with the Department of Health, Education, and Welfare Regulations applies to this application.)

6. The project will be operated in compliance with Public Law 89-10, as amended, and with Regulations and other policies and administrative issuances by the Commissioner, including submission of such reports as may be required.

7. The filing of this application has been authorized by the governing body of the applicant, and the undersigned representative has been duly authorized to file this application for and in behalf of said applicant, and otherwise to act as the authorized representative of the applicant in connection with this application.

8. No board or staff member of a local educational agency will participate in, or make recommendations with respect to, an administrative decision regarding a program or project under Title VIII of the Act if such a decision can be expected to result in any benefit or remuneration, such as royalty, commission, contingent fee, brokerage fee, consultant fee, to him or any member of his immediate family.

9. All equipment acquired under Title VIII of the Act will be used for the purposes specified in the approved project proposal, and such equipment will be subject to the administrative control of the recipient local educational agency.

MANAGEMENT SUPPORT

OEG-0-9-130045-3360 (281)

CONTRACT

KNOW ALL MEN BY THESE PRESENTS, that, Texarkana School District #7, Miller County Arkansas, a public school system incorporated in the State of Arkansas with principal offices at Texarkana, Arkansas, designated as Fiscal Agent for a planned "dropout prevention project" to be funded by the U. S. Office of Education, hereinafter described as the "Agent", for and in consideration of five dollars ($5.00). and other valuable consideration, receipt whereof is hereby acknowledged, does hereby contract and agree with the Region VIII Education Service Center a cooperative regional education agency administered by the Magnolia Arkansas School District #14, Columbia County, Arkansas, a public school system incorporated in the State of Arkansas and with principal offices in Magnolia, Arkansas, hereinafter described as the "Contractor as follows:

WITNESSETH THAT:

WHEREAS, the Agent has received continuation of an operational grant for Phase II under the auspices of the U. S. Office of Education to conduct a "Dropout Prevention Program" in the Texarkana, USA, area, and desires certain technical and management assistance in the operation of such program, and

WHEREAS, the Contractor is prepared to provide certain technical and management assistance and advice to the Agent in the operation of such program. (See Attachment I)

NOW THEREFORE, the parties do mutually agree as follows:

I. Scope of Work

The services to be performed by the contractor encompass the following areas of work: (a) curriculum services, (b) evaluation services and (c) management support services.

A. The contractor shall perform the following evaluation services:

1. Refine and complete the evaluation design for Phase II by September 1, 1970.

2. Develop the necessary evaluation forms, questionnaires, and instruments

designated as the responsibility of the internal evaluator according to the time schedule in the evaluation design.

3. Monitor the collection of information required in the evaluation design.

4. Provide the project director an interim evaluation report by February 15, 1971.

5. Analyze the data obtained for evaluation purposes and provide the project director with feedback information on the analysis.

6. Provide the project director with all information and/or reports deemed necessary for efficient operation of the program.

7. Present to the project director a final evaluation report by August 31, 1971.

Dr. Lawrence H. Roberts will represent the contractor in the performance of the evaluation services. Dr. Roberts has his Ph.D. degree in Counseling and Guidance, and has extensive work experience in teaching, evaluation, and governmental work. During the past year, Dr. Roberts was coordinator of Programs, Region VIII Education Service Center. He holds membership in numerous professional associations including the erican Psychological Association, American Personnel and Guidance Association, National Education Association, Phi Delta Kappa and similar groups.

The estimated cost for performing the evaluation services is $17,400.00.

B. The contractor shall perform the following curriculum services:

1. Develop and implement a pre-service and in-service training program for turnkey teachers. The pre-service training program will be complete by September 1, 1970, while the in-service will continue throughout the school year.

2. Monitor and provide consultative assistance to the turnkey program throughout the school year.

3. Provide the necessary management competencies as needed in the operation

of the turnkey program.

4. Develop dissemination information as needed about the turnkey program for various audiences and/or recipients.

5. Organize a curriculum study committee and help conduct a study of the needed vocational education programs. The study is to be completed by June 1, 1971.

6. Assist in the planning and development of a grading system appropriate to a self pacing instructional program. An appropriate grading system is to be developed by June 1, 1971.

7. Identify the students for the turnkey program by August 15, 1970.

Dr. Lewis Lemmond will represent the contractor in the performance of the curriculum services. He will be located in Texarkana and will devote full time to the services outlined under this contract. Dr. Lemmond has his Ph.D. degree in Supervision, curriculum, and instruction. He has work experience at all levels of education including teaching, supervision, and administration. Dr. Lemmond holds membership in the National Education Association, American Association of School Administrators, National Association of Secondary School Principals, Phi Delta Kappa and numerous regional and state professional associations.

The estimated cost for performing the curriculum services is $9,200.

C. The contractor shall perform the following management support services.

~~1. Help develop and write a "request for proposal" to be used in obtaining~~ bids for prospective contractors by July 20, 1970.

2. Assist in the development of a criteria by which a contractor might be chosen. A point system for evaluating contractor's bid will be developed by August 15, 1970.

3. Develop a list of tasks needed to initiate and operate the learning center, turnkey, curriculum and instruction, and the counseling and guidance components.

4. Help as needed in the development of an information dissemination system for persons within the project, as well as for those outside the project area.

5. Assist the project director in the preparation and writing of reports and the continuation proposal.

6. Assist in the development of a financial record system and correlating the cost information with the records system.

Dr. Dean C. Andrew will represent the contractor in the performance of the management support services. Dr. Andrew has his Ph.D. degree in Educational Psychology, and is presently Associate Director of the Region VIII Education Service Center. He possesses considerable experience in teaching, research, and administration. Dr. Andrew is the author of several books and numerous journal publications in the field of education. He has conducted or has assisted in several planning studies involving the education, health, and rehabilitation fields. Dr. Andrew holds membership in the American Psychological Association, American Personnel and Guidance Association. American College Personnel Association, National Education Association, and several regional and state professional organizations.

The estimated cost of the management support services is $5400.00.

II. Responsibilities of the Fiscal Agent

A. Consultation

The fiscal agent and participants staff members shall cooperate with the contractors representatives, and shall make themselves available at all reasonable times during ordinary working hours during the period of the contract. They shall be willing to confer with contractor on any problems that arise, and assist in the planning and implementations of the services included in this contract.

B. Information

The fiscal agent or his designate shall cooperate with the contractor's

representative in providing all information essential to carrying out the scope of work described herein.

C. Inspection and Reports

The fiscal agent shall have the right at all times during the period of the contract to inspect the work performed by the contractor, and to request brief interim oral or written reports of work progress from the contractor as may be reasonably necessary to assure proper performance of the contract.

III. Period of Performance

The services of the contractor are to commence on July 1, 1970, and will end June 30, 1971.

IV. Compensation and Method of Payment

A. Compensation

1. To perform the services outlined in this contract, the Fiscal Agent shall pay to the contractor a sum of money not to exceed $32,000, and it is to include all costs and expenses related to this agreement and represents payment in full for the complete and satisfactory services noted herein. (See budget, attachment II.)

2. The payment under this agreement will be made upon presentation of a requisition for payment by the contractor, and will specify expenditures for the following line items:

a. Personnel

b. Travel

c. Supplies, equipment, and services

d. Overhead and miscellaneous

B. Method of Payment

1. The dates listed on the evaluation design represent deadlines for performance of various services except where changes in deadline dates are mutually acceptable to the Fiscal Agent and the contractor.

2. Payments to the contractor shall be made according to the following

schedule:

a. Upon execution of this agreement, the contractor shall present a requisition to the Fiscal Agent for the advance of ~~25% of the total budget amount of $32,000, which is~~ $8,000.

b. On October 1, 1970, January 1, 1971, and April 1, 1971, the contractor shall present a requisition to the Fiscal Agent for the advance ~~of 20% of the total budget amount of $32,000, which is~~ $6,400 for each remaining quarter of the contract period.

c. Upon acceptance of the final evaluation report by the Fiscal Agent, the contractor shall present a final requisition ~~to the Fiscal Agent~~ for 15% of the total budget ~~amount of~~ $32,000, or $4,800.

V. Changes and Conditions

Changes, additions, or conditions to this contract may be made only by mutual agreement of the parties.

In witness whereof, the parties hereto have executed this contract this 1 day of July, 1970.

WITNESSED:

_____

_____

Texarkana School District No. 7

By _____
Fiscal Agent

Region VIII Education Service Center

By _____
Director

_____
Superintendent, Magnolia
School District No. 14

Budget for Providing
Evaluation, Curriculum, and
Management Support Services
for the Texarkana, USA
Dropout Prevention Program

Direct Labor:	
1 Project Supervisor (50 days)	$ 5,000.00
1 Evaluation Specialist (Full time)	15,600.00
1 Curriculum Specialist (Half time)	8,000.00
4 In-Service Education Consultants- 8 days @ $100	800.00
	$29,400.00
Other Direct Costs:	
Travel-	
4 In-Service Education Consultants @ $100 each	400.00
2 Special trips for Project Supervisor @ $150	300.00
Staff travel - 11,000 miles @ $.10	1,100.00
Printing and Reproduction	300.00
Supplies	200.00
Telephone and Postage	300.00
	2,600.00
Total Direct Costs	$32,000.00

AGREEMENT EDUCATIONAL AUDIT

The EPIC Evaluation Center, 1034 East Adams, Tucson, Arizona, agrees to perform the functions and responsibilities of the outside educational accomplishment auditor for the Texarkana Dropout Prevention Program, Texarkana School District, Texarkana, Arkansas, for the consideration of three thousand, four hundred eighty-eight dollars and ten cents ($3,488.10).

The primary responsibilities of the auditor will be to:

a. verify the results of the project evaluation, and

b. assess the appropriateness of the evaluation procedures.

1. Services and Products

The audit plan is referenced to the Texarkana Dropout Prevention Program, Texarkana, Arkansas, grant #OEG-9-130945-3360, Project #13-0045. Services to be provided are:

a. to critique the evaluation plans submitted by the internal evaluator for all project components and to make general recommendations regarding their effectiveness.

b. to critique, verify, and make general recommendations with regard to the products and processes of the internal evaluator (see Appendix A). These will include the following:--

(1) Identification of pertinent variables
(2) Behavioral Objectives
(3) Adequacy of measuring instruments
(4) Monitoring systems
(5) Calendar of events

c. To provide two audit reports to the LEA in accordance with paragraphs 4 and 6 hereof. These two reports--Interim Report I and Interim Report II--will be based upon information gathered from project records, interviews with project personnel, and data gathered from specified measuring instruments utilized by the internal evaluator. A minimum of four on-site visits will be made by an EPIC representative and three progress checks will be made to the project director during the time of this contract.

2. Audit Personnel

Dr. Robert E. Kraner, Assistant Director, EPIC Evaluation Center, will serve as Project Audit Director, utilizing the specialties of the EPIC staff in the required areas. The qualifications of these personnel are given in Appendix B. Any changes in the assigned staff will be contingent upon approval of the Project Director and USOE representative. The anticipated amount of time required for the audit function by the Project Audit Director and specialties of the EPIC staff are as follows:

Project Audit Director, Dr. Robert Kraner	11 days
Project Advisor, Management Techniques, Dr. Robert J. Armstrong	2 days
Project Advisor, Research and Statistics, Dr. Terry D. Cornell	2 days
Project Advisor, Low Achieving Students, Dr. Richard H. Powell	2 days

3. Requirements for Space and Documents

EPIC has no need for permanent facilities or secretarial assistance within the Dropout Project; however, it is expected that suitable temporary facilities will be available during on-site visitations, and that transportation will be provided during on-site visits between facilities.

EPIC will require the following documents be provided during the initial audit activities:

a. USOE Guidelines governing the project
b. Complete and corrected copy of the project proposal
c. Copy of pertinent correspondence and publicity releases
d. copy of all sub-contracts of project
e. Actual budget expenditures
f. Measurement Instrument for each stated behavioral objective

4. Schedule of Reports

It is the intent of the EPIC Evaluation Center to review as completely as possible the activities of the internal evaluator of the project. The results of these reviews will be presented in two main written reports during the time of this contract:

a. Interim Report I	March 15, 1970
b. Interim Report II	April 1, 1970

The content and scope of these major audit reports will be entirely dependent upon the written report of the internal evaluator for the project.

5. Sampling Techniques

All forms, checklists, and tests used in the project by the internal evaluator will be evaluated as to validity and reliability by testing specialists at the EPIC Evaluation Center. The qualifications of test administrators, testing procedures, test scoring, and analysis of results will be verified.

Due to the importance of the achievement test data for use in payment of project funds, all achievement testing techniques and scoring will be spot-checked and the analysis of results will be re-calculated at the Center. These results will be made available to the Project Director and will be included in the Final Audit Report.

6. Audit Reports

EPIC will hold periodic progress checks with the Project Director to verify the reports of the internal evaluator. All written reports will go directly to the Project Director. Fifty copies of the Final Audit Report will be delivered to the Project Director.

The Final Audit Report will include verification of all findings and conclusions submitted in writing by the internal evaluator and the assessment of the appropriateness of evaluation procedures.

7. Confidentiality

Only those documents outlined in Paragraph 3 of this contract will be requested from the project. All information and findings will be held in strictest confidence by EPIC.

Any publicity release must have the approval of the LEA.

8. Payment Schedule

The EPIC Evaluation Center shall be entitled to a fixed payment in the amount of three thousand, four hundred eighty-eight dollars ($3,488.00), with

one-half of this amount ($1,744.00) to be paid upon receipt of Interim Report II, April 1, 1970, and the remaining one-half ($1,744.00) to be paid upon receipt of the proposed audit contract for 1970-71, June 4, 1970.

9. Grant Terms and Conditions

The Grant Terms and Conditions of Grant #OEG-9-130045-3360, Project #13-0045 between the Texarkana Public Schools and the U.S. Office of Education are made a part of this agreement. The obligations of this agreement shall begin at 12:00 p.m., EST, March 10, 1970, and shall terminate at 12:00 p.m., EST, June 5, 1970, with subsequent work to be done by EPIC under a new agreement.

10. Entire Agreement

This contract constitutes the entire and only agreement between the parties named hereto and may be ammended by an instrument in writing by authorized signatures and the date thereof with the intent to be bound thereby.

EPIC Evaluation Center
Tucson, Arizona

by: Robert E. Kraner
Robert Kraner, Assistant Director

date: 3-5-70

Texarkana Public Schools
Texarkana, Arkansas

by: Edward D. Price

date: 3-12-70

CONTRACT

BETWEEN THE

TEXARKANA SCHOOL DISTRICT #7

and

EDUCATIONAL CONSULTANTS, INC.

This contract is hereby made and entered into by and between the Texarkana School District #7, a public school district organized and existing under the laws of the State of Arkansas, with principal offices located in Texarkana, Arkansas (hereafter called the school district) and Educational Consultants, Inc., a private corporation organized and existing under the laws of the State of Georgia with offices located in Athens, Georgia (hereafter called the Consultants).

PURPOSE

It is the intent and purpose of this agreement to stipulate the scope of the work to be performed under this agreement and to describe the responsibilities and obligations of each party to this contract.

SCOPE OF THE WORK

The work to be performed by the Consultants is as follows:

1. To prepare a cost reporting format to be used by the Technology Contractor in reporting costs to the Texarkana School District in connection with its performance contract financed under an ESEA Title VIII grant.

2. To prepare a program budgeting format which will serve as a basic guide for the future implementation of a program budgeting system by Texarkana School District #7. The minimum essential design elements will include an outline for the district to use in the development of goals and objectives, a program structure, a budget format including accounting forms, a chart of accounts, code numbers and a cost evaluation format including some suggested cost analysis technics.

3. To develop a sub-program budgeting format for the experimental phase of the Title VIII grant and provide assistance to the district with its implementation in the 1970-71 program.

4. To analyze costs related to Title VIII Program product objectives concerning pupil achievement gains and drop-out prevention and to compute cost/effectiveness ratios for pupil achievement gains in mathematics and reading for the experimental program, the turnkey program, and for comparable pupil groups in the regular school district program.

5. To provide an in-service program on PPBES to include a maximum of three days and for not more than twenty-five (25) persons selected by the school district.

RESPONSIBILITIES OF THE CONSULTANTS

1. The consultants agree to provide consulting, advisory, and production services necessary to accomplish the scope of the work as outlined herein.

2. The consultants agree to furnish the school district a report in draft form describing the components outlined in the scope of the work (except the in-service program).

3. The consultants will assume responsibility for all travel directly related to the project conducted outside of the Texarkana area and all living expenses related to the project both in and out of Texarkana.

4. The consultants agree to use Dr. C. W. McGuffey as Project Director for this project. Dr. McGuffey will give direct and continuing supervision to the activities of personnel involved in this project.

RESPONSIBILITIES OF THE SCHOOL DISTRICT

1. The school district agrees to provide suitable work facilities and materials for use by the Consultants as its staff members report for work in Texarkana. Such facilities shall include suitable work stations, calculating machines, copying services, typing services, and access to a telephone as the need occurs.

2. The school district agrees to furnish needed background and other information promptly and will assure cooperation of its staff members in the completion of this project.

3. The school district agrees to furnish to the consultants all achievement and drop-out data needed for computing cost/effectiveness ratios. Similarly, all fiscal data required for the successful completion of the project will be made readily available to the consultants in the requested format.

4. The school district agrees to serve as the intermediary in obtaining needed data from the Technology Contractor.

5. The school district agrees to type and reproduce the final report as may be required for its use.

COMPLETION SCHEDULE

1. The total project shall be completed not later than July 30, 1971.

2. Tentative completion dates for components of the project are:

a. Fiscal reporting format for Technology Contractor	December 1, 1970
b. Program budgeting format for Title VIII program	January 11, 1971
c. Cost analysis to compute cost/effectiveness ratios (15-20 days after data is made available)	June-July, 1971
d. Program budgeting format for school district	June 30, 1971
e. In-service program on PPBES	As arranged by School District

COMPENSATION AND METHOD OF PAYMENT

For services as outlined herein, the School District agrees to pay the Consultants the sum of nine thousand six hundred and ten dollars ($9,610.00). This amount shall be paid in seven (7) installments of $1,200.00 each, beginning December 1, 1970 and on the first of each succeeding month thereafter for six additional months, and a final payment of $1210.00 upon the completion and submission of the final draft of the report of the PPBES format and the cost/effectivenss ratios to the School District.

IN WITNESS WHEREOP, the parties to this contract have caused this agreement to be signed in their behalf by their duly authorized representatives on the day and year as indicated below,

On behalf of the Texarkana School District #7.

_____ Date

_____ Ed Trice, Superintendent

Notary: _____

On behalf of the Educational Consultants, Inc.

_____ Date

_____ C. W. McGuffey, President

Attested to by:

_____ Secretary-Treasurer

Notary: _____

Appendix D

OUTLINE OF MICHIGAN DEPARTMENT OF EDUCATION'S PLANNING GUIDE

BEST COPY AVAILABLE

AN INTRODUCTION TO.....

Guaranteed performance contracting

MICHIGAN DEPARTMENT OF EDUCATION
MARCH 1971

J. Sumner

AN INTRODUCTION TO

GUARANTEED PERFORMANCE CONTRACTING

A Planning Guide

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